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Address.

NUTRITION AND STIMULATION.*

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"There has been a wave of enthusiasm affecting the profession for the past three decades, which has been growing stronger each year, and is now truly at its flood, and this wave has concerned itself chiefly with what has been termed scientific research. We are all now ready to announce our belief that the laboratory side of medical science must be cultivated as a foundation for the whole superstructure of more or less empirical clinical facts, and we have given evidence by the establishment of numerous institutions for study along these lines, and more will follow. More systematic and accurate methods are being applied throughout the entire field of medical practice than ever before, and every worker, whether wielding the microscope, manipulating cultures or making clinical observations and studying bedside symptoms, realizes the importance of thoroughness and the application of careful scientific methods."[1]

In passing it may be well to suggest that the term "scientific" has been used in too narrow a sense by many members of our guild. A recent writer very tersely says: "The use of the word 'scientific' in a narrow sense as applied to laboratory work, has done much to arouse prejudice and establish false standards. By degrees there has grown up a distinction, which is now heard on every hand, between what is termed 'scientific medicine' and 'practical medicine' naturally with the implication that practical medicine as personified in the practitioner is not scientific. In other words 'scientific' as popularly used in medical writing and discourse, demands a laboratory and the accessories which a laboratory implies, whereas the man who is examining his patients from day to day in most painstaking and accurate fashion is looked upon as a faithful and conscientious practitioner, but not as a scientific investigator. So deeply has the laboratory impressed itself upon the uncritical thought of the time, that he who often aimlessly looks through a microscope, or with narrow vision describes a lesion, is placed upon a pedestal as a man of 'scientific' tendencies, while his colleague who faithfully describes a symptom is denied any such distinction."

"The reason for this anomalous state of affairs is certainly not far to seek. It lies in the fact that accuracy and hence knowledge have, in great measure, come by way of the laboratory. The insistence on the necessity of exact observation and description has certainly not had its origin with any one set of investigators in the general field of medicine. The laboratory worker deals with problems of the most complex sort, and on the other hand with facts which may be easily and accurately described. His claim to distinction as a scientific man does not, however, lie in his description of isolated facts, but wholly upon his attitude toward the problems, the solution of which depends upon the proper interpretation of those facts. Certainly nothing is simpler than to go into a laboratory and to describe at any length what one sees under a microscope. This is, however, not science, however often the results may masquerade as such, nor does the mere accomplishment of such work constitute a scientific man. But to go into a laboratory, to study facts laboriously, and then to appreciate clearly the meaning of those facts for the sum total of knowledge and to make generalizations therefrom is, properly speaking, 'scientific.'"

Says the same writer: "We are safe in saying that all which is concerned with the acquisition of accurate and systematic knowledge of principles, by observation and deduction, is scientific. We must realize that a cell, as seen under a microscope, is no more an object of scientific investigation than a cough and a chill." Indeed, we must be imbued with the thought that the science of the sickroom, the science of life, its continuance, the securement of growth, the science of nutrition by which growth is accomplished, the securement and maintenance of a strong, robust, healthful physical and mental makeup and a useful, graceful old age, are all quite as important and worthy of our religious regard as laboratory results and deadhouse details.

Continuance of life, commencing with the original protoplasm, the cell, depends upon proper nourishment and a proper recognition of this fact, and attention to the means of securing this result is the duty of the physician. In other words, the physician should be interested in the child, from, and even before its conception.

May we not hope that the time will soon come when the physician will be the family counselor, and not alone be called to see individual members of the family when sick, but consulted prior to any important domestic movement, especially in advance of all matrimonial plans.

A reckless disregard of the physical equipment of either one or both parties in a matrimonial partnership can only result sorrowfully: "A child born weakly—of weakly parents, maybe—perhaps weds precociously a weakly wife or husband, 'produces weakly children, and they weaklier children,' of whom it may be emphatically said, 'better they had not been born,' 'for life is not to live, but to be well.' Without being actually ill, however, they are ever ailing, never healthy, never strong, sturdy, and active, as are many others; appetite is capricious, seldom good; food not taken with relish, hunger a sensation unknown to them; the poor, puny, pining things may be said to vegetate from day to day,

* Address in Medicine to the Mississippi Valley Medical Association, Asheville, N. C., October, 1900.

1. Boston Medical and Surgical Journal.
2. Ibid.

instead of thrive and enjoy life; the pleasures of childhood are not theirs. 'A hale cobbler is a better man than an ailing king,' tersely and truly wrote somebody, 'for life consisteth not in the abundance that a man possesseth,' and compared with a good constitution, all the wealth of the world is nothing; yet how marvelously little do some, in their thirst for riches or position, 'appear to think this when sanctioning or encouraging ill-assorted or non-assorted marriages, regardless of physical and mental fitness, and that common sense should tell them can only result in disaster.' Were parents careful as to the companionships their children form, instead of anxious for them to ally with those of every wealthy *roue*, who bear about them the too manifest constitutional deterioration it is desirable to avoid, we should be less often shocked by the pitiable objects we sometimes encounter."

If the physician could have a voice in the decision of these matrimonial schemes it would be well, but whether he has or not, he surely should be constantly on duty after marriage as the adviser and helper in the securement of a healthful and well-endowed heir.

We should insist, except in rare instances, that married life is a failure unless a child be born within a year, and we should encourage the thought that barrenness is acknowledgement of physical or moral delinquency, and in nearly every case is a reflection on the party of the second part as well as the party of the first.

Let us insist, that the future man will be a more complete and perfect specimen if we as physicians can be permitted to feed him or direct his feeding from the moment that he is conceived and starts on his life's career. Every mother or prospective mother should be taught that she is, from the time she reaches puberty, built and equipped for two, for herself and the child that from the beginning it was intended that she should bear and rear. And so, when bearing her child, the mother should be taught every detail of personal hygiene, proper feeding and elimination not only for her own sake, but for the health, life and perfection of the coming child.

Dr. Arthur W. Johnstone recently presented a most valuable paper, with the title "Auto-intoxication from Defective Menstruation," from the standpoint of nutrition, on the utility of the function of menstruation as providing a means of elimination for the surplus unused in child-bearing, demonstrating that many nervous symptoms of gynecologic subjects were due to retained excretions from defective menstruation, explaining many points of the pathologic features of puberty and the menopause.

The chief definite knowledge of proper infant feeding on the part of the medical profession has been the development of the past twenty years. There was no real check on the "slaughter of the innocents," the fearful, the awful infant mortality that obtained the world over until the problem of infant feeding was properly solved, and the first step in its solution was the appreciation of the fact that the substitute food for the babe must be sterilized, and the second was to know that sterilization means cleanliness rather than the destroying of microorganisms in the food at the expense of killing the vital elements therein by cooking them to death; the third step was the recognition of the fact that infantile intestinal disturbances were almost uniformly caused by improper food and relief depended on the correction of the food-supply and the accomplishment of proper intestinal drainage—the removal from the bowels of the irritative materials. The pioneer work of Pasteur, Tyndall, Lister, and others was quite as important from a medical and dietetic standpoint as from the surgical one.

It is needless for me to draw attention to the essential elements of proper food. We are all familiar with the three general groups of elements or necessary food, which may be subdivided into: 1, the mineral—water, salt, ashes of plants and animals; 2, the carbonaceous or respiratory—heat-giving, starch, sugar, fat, etc.; 3, the nitrogenous—flesh-forming, tissue-building, such as albumin, fibrin, casein, etc. It stands to reason that throughout life the mineral and respiratory foods are necessary in full amount, but that when the individual has gained full maturity, complete growth, say after the age of 30, the nitrogenous or tissue-building foods are demanded in smaller quantity, and after 40, the middle mile-post of life, has been reached, less than one-half or even one-third as much animal food is required as during the period of development. This is not sufficiently appreciated, and the continued use of large quantities of nitrogenous food after maturity accounts for numerous diseases.

The investigations and views of Haig, Garrod and others are being daily confirmed by careful observers as to the close relation existing between the excessive use of animal food and gouty as well as organic diseases in general. Close study of numerous victims of the gouty diathesis, hereditary and acquired, has convinced most observers that the proper solution of the problems involved lies along the lines of judicious diet, which involves especially the reduction of animal food consumption and a more liberal use of fruits and vegetables. When we realize how close the relation is between gouty conditions, atheromatous degeneration, tuberculosis, cancer, general organic disease, premature age, and animal food in general, we will surely study the question most assiduously.

The liberal eating of fruit is a most excellent habit to form; it not only opposes constipation and favors the freest elimination in a general way, but the mineral salts contained in the fruit largely affect favorably the elimination of uric acid. The free eating of cherries, strawberries and grapes is an excellent fruit cure, and Weiss, acting on the recommendation of Woehler and Linnaeus, has recently made experiments which determine that quinic acid is probably the active ingredient present which acts as a curative agent in gouty states. A decoction of the root and leaves of the strawberry plant has long been a favorite domestic remedy in gout in some parts of Russia.

As a proper selection of the full varieties of food, and their complete digestion and proper assimilation, together with perfect elimination—in brief, a perfect scheme of metabolism—are essential to growth, so they are demanded after full growth is accomplished, in maintaining a healthful condition of the animal mechanism; but, as previously stated, the essentials for keeping up the equilibrium of metabolism in the latter period are different.

The scheme of metabolism includes assimilation or tissue-building, the power which the animal organism possesses of accumulating from its food supplies a store of potential energy, which is able to transform into kinetic energy and which commonly manifests itself in the form of muscular work and the production of heat, and finally the formation and elimination of excretory products which result from the changes which occur in the constituents of the tissues as the necessary accompaniments of such transformation of energy.

The balancing of the bodily income and expenditures is the essence of health. The real effect of food is to repair waste, administer to the growth of the bodily organs, maintain the balance of nutritive and temperature equilibrium under the varying conditions and circumstances to which the individual may be exposed, to maintain all the animal functions in complete activity and prevent loss of weight.

It is well that we exercise our intelligence in the selection of foods essential to health, to the proper running of our mechanisms, and remember that we eat to live and must not simply live to eat. In other words, after maturity there is grave danger to us in the cultivation of epicurean tastes, the love of the tickling of our palates.

It is not always safe to trust merely to the sensations of hunger, surely not to capricious choice or fanciful desires. We can not too strongly emphasize the thought that high livers are short livers. It is the part of wisdom for us all, then, to realize that as we approach maturity we must be satisfied to eat less and eliminate more, and that the greatest helper in the flushing of the eliminating organs is large quantities of pure water. Bodily exercise is absolutely essential to healthful activity of the eliminating organs, and unless we wish to be full, dull, heavy, luggy, and lazy as well as fair and fat at forty, we must keep moving and echo loudly the words of wisdom, "Blessed be drudgery." As an exercise walking will ever continue to be healthful and good. We as physicians fail in our duty when we do not announce in strongest terms not only the advantage from the standpoint of happiness, but also of longevity, of plain living and high thinking.

During this last decade we have added more definitely to our knowledge of the keystone in the arch of metabolism, the glandular system, than ever before, and during this period we have secured our first real knowledge of those glandular organs which had previously been considered as almost superfluous, the ductless glands, such as the thyroid and thymus. It would be most interesting to review the bearing of these glands on growth and health, both mental and physical, but time will not permit.

As we have studied food problems, we have had crowded on us more and more every day the necessity of state legislation in the matter of pure food laws. Correspondence with many thousand physicians during the past year elicited almost uniformly the view that legislation which will favor purity of food laws can not be too strict. Members of the medical profession of Missouri, almost to a man, have endorsed the legislation which precludes the sale of baking powders containing alum, an astringent which is certainly not favorable to good digestion, and other more comprehensive laws should follow. An investigation of the whole field of food adulteration presents facts which are almost appalling.

Some writers have placed under the head of medical or auxiliary foods those things which go to make up stimulants, neurotics and narcotics, such as alcohol, tea, coffee, tobacco, etc., but the expression, "auxiliary food," is of doubtful propriety. The term should surely be applied only to those things which are necessary to life.

ALCOHOL.

Among the so-called auxiliary foods alcohol is the only one which is open for discussion. Accepting as we may the views of Dujardin, Thompson, Pavy, Burney Yeo, Atwater and others in favor of the fact that when alcohol is ingested in the system in moderate quantities a part is utilized and only a part eliminated and it is therefore a food, it does not follow that it is essential to life. Many things may be oxidized and used in the body, and be a food to that degree, yet not be a desirable one. The evidence is constantly accumulating that, as a food, alcohol is of doubtful utility, and the list of valuable foods that are in no way involved in doubt, and certainly not harmful and dangerous to the body, mind and soul, is so great that alcohol as a food may well be left out of our nutritive philosophy and be permitted to take its place as a stimulant pure and simple. As a matter of fact, the dangers that are associated with alcohol are so great that it should only be classed under the head of medicines and luxuries. As a luxury, it certainly adds to the sum of human conviviality, cheerfulness and happiness when used in very moderate quantities, but then only with the meal. If used liberally it takes its place along with opium and Indian hemp, primarily as an exhilarant and secondarily a depressant and narcotic. A very limited amount of alcohol with the meal now and then does, to advantage, stimulate appetite and improve digestion, and by its psychic effect, making the user enjoy his food and environment, it may be helpful. The limited amount of good that it may do, in this way, in a few rare cases, is offset a thousand, yes, a million, fold by the awful dangers which accompany its use. The writer has for years had liberal views on this question, and while he believes that the proper solution of the temperance question lies in teaching every child from the beginning until matured to be the ruler of its own spirit, to cultivate self-denial, self-control, self-respect, yet more and more as time passes he believes that absolute avoidance of alcohol in all its forms as a beverage, as a luxury, is the safest course for all, and that while now and then a strong, self-reliant, rigid back-boned individual may with impunity take his occasional drink or liberal indulgence, the endorsement given to the drinking of alcohol by his act and the injury to his brother, whose keeper he surely is, however much he might wish to avoid his responsibility, is an unanswerable argument against him.

No one better than a physician knows the awful results to humanity, physical, mental and moral, of alcoholic indulgence. So that while being gently tolerant of the views of those not agreeing with me, I am strong in the conviction, after many years of study of the subject, viewed from the standpoint of experience and observation, that as a luxury alcohol should be ruled out of our lives.

While holding this view I but regret that many opponents of alcohol are so severe, intemperate and almost unkind in their discussion of the question. Is it not better for us all to make our appeal in a kindlier spirit of charity, to the judgment and intelligence of all concerned, presenting the argument that alcoholic indulgence is an injury to ourselves—a weakness, its excessive indulgence a vice, not a crime?

Alcohol as a medicine, a prompt and diffusible stimulant, has great value, but as each half decade of my experience has passed and I have taken stock of my knowledge I have been stronger in the view that in the majority of cases it can be dispensed with. In advanced stages of typhoid fever, pneumonia, tuberculosis and sepsis it certainly meets conditions admirably, and yet in many of these we can substitute hot milk, coffee, tea, strychnia, normal salt solution and other remedies to advantage.

Alcohol has been more abused, more excessively and

needlessly used, more misapplied, than any other one remedy. The London *Lancet* recently quoted from the *New York Medical Journal* for Aug. 19, 1900, a case reported by Dr. M. A. Walker, of a boy of 6 years, who, before breakfast, about 8:30, drank 3 ounces of whisky. The parents knew nothing of this until about 9:30, when the boy, while sitting at the breakfast table, dropped a plate and then fell from his chair. At 10:15 he fell asleep on the floor, and his mother put him to bed thinking he would "sleep it off." There was no thought of serious consequences until 7:30 p.m., when the parents could not arouse him. At 7:45 he was comatose, the pupils were widely dilated and did not respond to light. The pulse was 145, small, weak, and compressible; the respirations were 40, easy, and quiet. The axillary temperature was 103.2 degrees. In spite of treatment—which was not described—circulation and respiration slowly failed. At 10:30 severe clonic convulsions occurred and lasted about ten minutes, and from this time there were almost constantly recurring localized spasms of the face and extremities, the left side being much more affected than the right. Cheyne-Stokes respiration began about 2:45 a.m., and death from cardiac failure occurred at 5 a.m. No means of stimulation seemed to have the slightest effect on the heart. The rectal temperature rose to 105.3 degrees just before death.

What physician who closely scans the details in this case does not recall the victims of typhoid fever, pneumonia and diphtheria, in the years gone by, who were similarly symptomed from alcoholic drenching? Let me urge one and all in the coming years to have a care in the administration of alcohol—it is as dangerous as a drug, as it is as a food.

Duty demands that physicians utter a note of warning against the use of alcohol in any form by women. Drinking on their part, whatever it may be abroad, is on the increase in America, particularly among the wealthy, the leisure class. The modern woman is not as busy in a domestic way as she once was. In many of the leading cities of America the free drinking of wine by very respectable women in public places is too common, and some of them now liberally indulge in the luxury of the cocktail and high-ball, and overwhelming evidence can be presented that the soda fountain is a popular rendezvous for fashionable female tipplers in some of our leading cities. This is an awful thing. It is bad enough for men to drink, but for women it is physical, mental and moral suicide. Their emotional make-up is such as to render the drinking of alcohol in any form deadly dangerous. At this point it can not be too strongly stated that a physician should only in the direst extremity administer alcohol to a woman; to a nursing mother, never. Too often beer, or some sloppy substitute masquerading in its place is given to the nursing mother to increase her flow of milk. It should never be done.

TEA, COFFEE, ETC.

Coffee, tea, cocoa and chocolate are all popular aromatic beverages which, while differing considerably from one another in their common physical characteristics, all agree in containing alkaloids closely resembling each other. Coffee and tea contain the active principles caffein and thein, practically identical, and the others contain an alkaloid of theobromin, which is very like them. Coffee is the more powerful and, on account of having much less tannin than tea, is not so constipating. Tea, being less potent, is a safer beverage if used liberally. Chocolate, as prepared from the cocoa of commerce, is very weak in the alkaloid theobromin; being very rich in cocoa-butter, made with milk as it usually is, it makes a most nutritious drink.

Coffee properly made is a great comforter to mankind, if not used to excess. It is truly "the cup that cheers but does not inebriate." It is a decided stimulant to the nervous system. Used intelligently it is a great conservator of energy, lessening the need for sleep after exertion, and removing the "tired feeling," and the best authorities claim that it has the power of augmenting the functional activity of the muscles, and a very stimulating effect on the heart, in small quantities quickening its action, in large quantities slowing it, while in excess it seriously disturbs its rhythm and regularity. If the digestion is above par, tea and coffee may be taken with meals, but if impaired they should be taken pure, without cream or sugar, an hour or two before meals. Coffee increases the secretion of the skin and the kidneys, and in the majority of cases it increases the flow of bile, peristalsis, and thus antagonizes constipation. This is more apt to be the result if it be taken as a pure infusion an hour or two before meals, on an empty stomach.

Tea and coffee, being stimulants, should not be given to children, on the principle that thoroughbred, spirited colts need no whip, but oats instead. Unquestionably the milder stimulants given to children during the growing period favor the appetite for stronger ones later.

It is well to remember that one good strong cup of coffee twice a day is ample for the average adult, and if taken in this way, if any exceptional demands be made on one's strength or endurance the additional cup of coffee will assist in meeting the emergency admirably. In the sick room, or for the victim of surgical shock, a good strong infusion of coffee by the mouth or the rectum, is in the majority of cases superior to alcohol.

TOBACCO.

Tobacco is a luxury which may very properly be classed, save in its dangerous features, with coffee and tea, but, like them both, it increases the power of resistance of the individual to fatigue and enables him to meet great tests of endurance and indulgence in prolonged abstinence from food. Tobacco differs from alcohol in every essential; the latter, whether we accept the idea that it is a food or not a food, can only be pronounced poisonous or dangerous so far as the individual dose is concerned when given in very large quantity, whereas tobacco in itself contains—no matter how small a portion—an active poison, a narcotic, which readily affects the brain. The secondary effects of all stimulants like alcohol and sedatives like tea and coffee are narcotic, but some, like tobacco, opium, henbane, etc., seem to immediately attack the centers of the brain.

The tobacco plant belongs to the genus Nicotiana, a name given to it in honor of Jean Nicot, a French ambassador at the court of Portugal, who first introduced this plant into France. Belonging to this genus are several species which yield at the present day the tobacco of commerce. These plants belong to the natural order Solanaceæ, a family which yields us not only tobacco but stramonium (Jamestown weed), belladonna (or deadly nightshade), henbane, cayenne pepper, tomatoes, ground cherries, potatoes and mandrakes.

A well-known writer has observed: "At first sight this looks like an incongruous family, but still there are certain common properties running through the

whole order. All contain, more or less, substances that act on the nervous system, and thus increase from the mild poisons of the solanums till we arrive at the deadly principles of the atropas, the henbanes and the tobaccos. It seems well established that smoking was introduced from the new into the old world, yet in the latter there was ample material for its indulgence, for at least two species of Nicotiana, the N. rustica and N. persica, are indigenous to Asia. The American plant, the Nicotiana tabacum, has been one of the most cultivated, and Virginia, Kentucky, Maryland and Ohio are the states where it has been raised to the best advantage. Canada has produced some fairly good tobacco, South America sends its tobacco to Europe in large quantities, but for a long time the best in the world has come from Cuba. Our new possession, Manila, has furnished a high-grade specimen of great fame. From Persia has been brought the refined and delicate 'Shiraz tobacco' procured from Nicotiana persica, but the most aristocratic variety, Latakia, is produced in Turkey by the Nicotiana rustica. In Africa and Egypt the American species thrive. Algeria furnishes the chief supply of tobacco to France, and this explains the zeal of custom house officers at French ports in promptly confiscating the personal supply of cigars in the belongings of American globe-trotters. Germany, Holland and other European countries furnish a proportion of low-grade specimens.

Tobacco is used in three different ways, either chewed, smoked or in the form of snuff through the nasal passages. It would be interesting to discuss the details of the manufacture of tobacco, its proper treatment before being ready for chewing, smoking or snuffing, but in each case the effect is the same and the result depends on the absorption of the active principle, nicotin, and whether one snuffs, chews or smokes, unless he be possessed of a strong will power, he becomes more and more a slave to a narcotic but a step removed from those which are more alluring, such as opium, morphin and cocain.

In order to fully understand the effect of tobacco it is well to understand its constituent parts. In the analysis of a pound of tobacco, the fresh dried leaves, we have:

	Ounces.	Grains.
Nicotin	0	419
Concrete volatile oil	0	7
Chlorophyl	1	46
Gum	1	222
Starch	0	279
Albumin and gluten	0	349
Sugar	0	139
Salts	2	245
Water	1	402

In chewing tobacco about the only constituents which can exercise much influence on the system are the nicotin and volatile oil. The soluble salts would act the same as the saline constituents of the other plants and they explain why tobacco is such an exhausting crop for the soil. Among the salts of tobacco the nitrates are the most abundant, and this explains the ready way in which tobacco burns in the process of smoking. In snuffing, the soluble parts of the tobacco, as in chewing, are, after being dissolved, absorbed through the mucous membrane. In these latter days we understand that the intense vascularity of the nasal mucous membrane permits rapid absorption and the nicotin readily enters the circulation, the same as we have demonstrated that solutions of morphin do, and as thoughtless rhinologists have shown, in their temporizing and palliative treatment of nasal catarrh and hay-fever by means of the cocain spray.

In considering the chewing of tobacco from a medical standpoint we have to consider the nicotin absorbed through the buccal and pharyngeal mucous membranes and the small amount probably swallowed, together with the draught on the salivary glands and the waste of saliva. The chewing, viewed from a polite standpoint, unless absolutely in private, can not be considered other than in bad form. In the animal economy we have the secretory and excretory system of glands; the product of the former are essential to the proper performance of physiologic duty within the body and must be husbanded, and the latter are no longer needed and naturally seek the external world, but their proper disposal should be in private, away from the haunts of men, surely not in a way to offend the feelings of others or to make of one's self a public nuisance. So tobacco-spitting can not be excused under any circumstances from the polite standpoint, but the saliva is a secretion, not an excretion, and its free expectoration is a needless waste.

The use of tobacco by smoking is becoming more and more the almost exclusive way, and while in the earlier days the pipe was much in evidence, the cigar has almost crowded it out. It is interesting to study the history and preparation of tobacco and the manner of making cigars, but the main thing for us to recall is that while a good cigar, used very temperately two or three times a day, may be smoked by the average adult man to good advantage, excessive indulgence in smoking is very harmful. It is only necessary to recall one's first cigar and the profound effect it produced, to realize that the smoking of tobacco in large quantities is trifling with a dangerous agent.

In tobacco smoke we have the following: nicotin, empyreumatic oil, butyric acid, carbonic acid, ammonia, paraffin, empyreumatic resin, acetic acid, carbonic oxid, carburetted hydrogen and water.

The chief effects of smoking are from the nicotin and empyreumatic oil, the first being an active poison —an infinitesimal quantity will destroy life—and the latter, which is the rank accumulation in the stem of the pipe, is also a potent poison, one drop on the tongue of a cat having been fatal. The nicotin and the oil both act on the nervous system, though differently, the nicotin paralyzing the heart by its action on the brain, while the oil confines itself chiefly to the spinal cord and the motor nerves. It will thus be seen that no part of the victim's equipment escapes the deadly effect of tobacco in excess; as Lankester observes, "the nicotin seizes on the main citadel and the distilled oil attacks the outposts, and the whole man—body and mind—is brought under their influence."

1. Smoking in excess is more harmful than chewing, for the reason that the nervous system is not only more injuriously affected, but the catarrhal disturbances of the air-passages render the smoker more liable to dangerous and fatal diseases of the air-passages.

2. The excessive smoker is not only more liable to pneumonia, la grippe, tuberculosis, laryngeal and pulmonary, as the sensitive mucous surface and the bankrupted nervous system present a double invitation at all times, but fatal results are more apt to occur. Every case of laryngeal tuberculosis coming under my observation for several years has presented a history of the victim being a smoker, in the majority of instances to excess.

3. Heart failure is a frequent complication and serious with excessive smokers.

4. Cigarette smoking is worse than either the cigar or the pipe, but only for the reason that, the cigarettes being milder tobacco, the smoker almost universally inhales the tobacco fumes, and when we realize the component parts of tobacco smoke and how direct the routes from the air vesicles of the lungs into the blood current we can appreciate the ill effect.

5. Inveighing against the cigarette on the ground that the paper is poisonous and the tobacco drugged, mixed with opium, Indian hemp, etc., is all wrong, as the cigarette being a milder tobacco, perfectly pure, and the paper unobjectionable, if smoked without inhaling and in a temperate way, is to be preferred.

6. The cigarette smoker nearly always inhales the smoke and, becoming habituated to this quick toxic action, he will not smoke without inhaling whether he uses the cigarette, the cigar or the pipe, for the same reason that the morphin habitue accustomed to the hypodermic method will not be satisfied with the drug through the mouth; both victims want quick action.

7. Children who use tobacco before reaching maturity have their growth interrupted, as nothing more definitely interferes with the equilibrium of the tissue-building, digestion, assimilation, elimination, metabolism, than tobacco, and for these reasons its use favors gouty diseases, atheromatous degeneration, premature senility and decay. The excessive users of tobacco are crippled in their general equipment and are in no form to wrestle successfully with any disease.

8. He who smokes cigarettes to excess, or uses tobacco in any form to excess, is in danger of becoming an alcoholic, but in even greater danger of becoming a drugger, as tobacco is so closely allied to opium and Indian hemp. In a general way one excess invites another, as the will power becomes lessened.

9. Nothing is so apt to bankrupt the sexual equipment as tobacco, unless it be opium, as it stands to reason that a cerebrospinal paralyzant must obtund sexual desire and power.

10. The numerous mental wrecks, youths who have come under my care during the past ten years, whose lives were failures, or who fill suicides' graves, impress me that to-day tobacco stands as the gravest danger confronting the new century, and the medical profession has a fearful responsibility in educating young men and their parents to appreciate this danger.

The business world is, I am glad to see, undertaking the solution of the tobacco problem the same as it has that of alcohol, in that it is declining to employ cigarette fiends as well as moderate or excessive drinkers.

I am firm in the view that the medical profession must study calmly, tolerantly, temperately, the problems related to stimulants of all kinds, but tobacco and alcohol in particular, and they put themselves in best form for doing the best work along these lines and wielding their greatest influence for good, by themselves being exemplars of temperance, self-restraint, self-denial and correct living.

49 West Forty-fourth Street.

Zinc Oxid in Putty.—The French minister of public works has prohibited the use of white lead and ordered zinc oxid to be used in its place in putty, etc. This is the result of the efforts of Dr. Laborde, who has emphasized the injury from lead poisoning from this source, and proved that harmless zinc oxid is an efficient substitute for it in most of the various uses to which it is applied.

Original Articles.

THE RESULTS OF THE SURGICAL TREATMENT OF INFLAMMATION OF THE MASTOID PROCESS.*

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The subject upon which I wish to speak has been so thoroughly considered during the past few years, it would be manifestly impossible for me to give more than my own personal experience in regard to it. What I wish particularly to emphasize, however, is the advisability of early operation in doubtful cases, and to show by my own statistics that the procedure itself is practically free from danger.

At the present time the general surgeon does not hesitate to open the abdominal cavity for diagnostic purposes. In the same way, I believe the otologist is perfectly justified in exploring the mastoid cells, whenever there is the slightest evidence of an inflammatory process. In the vast majority of cases, the signs are so well marked that a diagnosis can be easily made. In some, however, especially in those patients in whom the pneumatic cells of the mastoid are well developed, it is impossible to make an absolutely positive diagnosis until the disease has existed for several weeks, and sometimes for several months. When these cases are operated upon, the destruction which has taken place is invariably found to be extensive, and recovery is necessarily slow. Had operative interference been instituted when the first signs of the affection appeared—in other words, had an exploratory operation been done, the patient would have been relieved at a much earlier period, and a long and tedious convalescence would have been avoided.

So far as the operation itself goes, I am convinced that it is absolutely free from danger, if conducted in an aseptic manner. By this, I mean that the field of operation, the hands of the surgeon, the instruments employed, the sponges, ligatures, dressings, and, in fact, everything which is introduced into the wound, must be thoroughly aseptic. As much care must be taken in the preparation for such an operation as if the surgeon intended to enter the cranial cavity. The operator can never tell the extent of the disease in any given case, and not infrequently finds that there is an extension to the cranial cavity, in cases which have appeared comparatively simple.

The technique of the operation is too well known to require any description. I have only a few suggestions to make in regard to the method of operating. In the first place, the incision through the soft parts should be made as close to the ear as possible. If this is done, there will be no deformity after the operation; secondly, in every instance, I believe it wise to explore the entire pneumatic structure of the mastoid process, including the cells at the apex of the process. We often find the pneumatic spaces filled with granulation tissue or with pus, even when they are covered by a wall of apparently healthy bone. This is especially true of the cells at the

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tip of the mastoid. Another point is that, in every instance, the mastoid antrum should be entered, as a first step of the procedure. Even in cases where the cortex has been perforated spontaneously, I do not think it wise to begin the operation at this point. The mastoid antrum should always be entered in the usual manner. If this is done, the accidental exposure either of the meninges or of the lateral sinus will occur less frequently, while, at the same time, perfectly free drainage from the middle ear will be obtained.

Regarding the practice of closing a portion of the superficial wound with sutures, in order to render the recovery more rapid, my own experience has been that this procedure is scarcely advisable. Recovery is quite as rapid if the entire wound is treated by the open method, and any danger of pus retention is also completely avoided.

In 273 cases operated on, in not a single instance could death be attributed to the operation. Cases suffering from intracranial complications prior to the mastoid affection, are naturally excluded from this list. The simple point, however, which I wish to make is that the operation in itself is perfectly safe, and is a warrantable procedure as a diagnostic measure in doubtful cases.

TREATMENT OF CHRONIC OTORRHEA.*

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The subject of chronic tympanic suppuration is an important topic of aural surgery. The purpose of this paper, however, is not to introduce novel procedures for its relief, but rather to summarize our knowledge and endeavor to ascertain the crystallized sentiment of otological experience. For, be it remembered, unanimity by no means exists concerning relief measures for this troublesome and dangerous pathological condition, its treatment ranging all the way from the time-honored syringe to the radical mastoid operation. If concrete opinions concerning curative measures prevailed, no excuse would exist for this paper, but the discrepant views entertained by eminent authorities on both sides of the Atlantic furnish ample provocation for an endeavor to produce order from apparently chaotic conditions.

A professional classification according to expressed views might be designated as follows: The ultraconservatives, conservatives and radicals. 1. The ultraconservatives are those still possessing an abiding faith in the syringe, cleanliness, insufflations, drugs, mild surgical procedures such as polypus removals, etc., and who believe that all decided surgical measures, such as ossiculectomies and tympanal curettage, or worse, are not only unnecessary, but unwarrantably dangerous unless distinct mastoid symptoms are present. 2. The conservatives are those who give the previous treatment an opportunity of several months to effect a cure, failing in which, the tympanum is usually swept clear of pathological products. Many of them, but not all, regard a radical mastoid operation as a dernier ressort, not to be performed until all other means have failed, after persistent effort, and perhaps not then in the absence of mastoid symptoms. Other conservatives advise a radical operation more readily. 3. The radicals are those who waste no time over the preceding methods, but open the antrum, mastoid and tympanum as soon as chronicity is established. In this view they are supported by the opinion that the mastoid antrum is an actual anatomical extension of the tympanic attic and usually participates in chronic suppuration of the latter, and should be thoroughly opened and cleaned as soon as brief ordinary unavailing treatment has practically proved the existence of antral disease. They believe, therefore, that chronic otorrhea implies antrum involvement, perhaps induced by exuberant middle-ear granulations, which retain antral pus, unreachable and incurable by tympanal treatment or operation, and that such measures are mere placebos. They feel that necrosed bone in other parts of the body, even when exposed to view and readily subject to local treatment by acids in proper strengths, is treated by the skilful surgeon by radical surgical intervention, and not by tedious and unsatisfactory applications. They feel that the important and complicated structures of the middle ear should be treated upon the same general surgical principles, but with their importance much accentuated. They also believe that an effort should be made to save the ossicles in a fairly physiological condition, naturally impossible after ossiculectomy, and that the only probable method of accomplishing this is by the performance of the radical operation.

Among the ultraconservatives, according to their writings, may be classed Ole Bull, Manning, Dentovitch, and the late Samuel Sexton. Among the conservatives may be classed Shepherd, Black, Stucky, Buck, Gomperz, Burnett, Randall, Reinhard, Politzer, McBride, Lucae, Guye, Gradenigo, Eemann, Barr, Faraci, Buller, Cheatle, and White. Besides these Noyes is inclined to conservative views, while leaning somewhat toward ultraconservtism, with great faith in the "dry treatment" of chronic otorrhea. Dench and Vulpius, while still believing in a fair trial of conservative measures, are more and more impressed with the necessity for radical procedures, which they perform much more frequently and unhesitatingly than formerly. Dench shows a record of 64 per cent. of cures by the radical operation, as against 58 per cent. by ossiculectomy. Knapp expresses the same views, and believes that during the last few years the indications for intratympanic operations have steadily lost ground. He does very few of them, but has not utterly abandoned them. He thinks the indications for the radical operation are always strengthened in the presence of such constitutional diseases as tuberculosis, diabetes, syphilis, etc. Milligan has not abandoned conservative measures, but believes that twelve months of faithful treatment should be considered sufficient, after which, if the discharge continues, he would perform the radical operation. Among the radicals we find such names as Stacke, Schwartze, Macewen, Siebenmann, Jansen, Holmes, Alderton, Lane, and Gleason.

One noticeable feature of these lists is the evidence of surgical evolution and progress for, while such lists are, of course, numerically quite incomplete, their proportions and characters are unquestionably a fair representation of professional opinion. The time is fast disappearing when capable and conscientious surgeons are contented to indefinitely and dreamily subject such patients to interminable treatment, with the assurance that conditions are improving, and that a cure may some day be anticipated. Nor must this pessimism be construed into a lack of reasonable faith in ultraconservative measures. Much may be accomplished by antiseptic syringing, especially if effected by a good intratympanic syringe. Benefit unquestionably frequently follows what

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is known as the "dry treatment," peroxid of hydrogen, acids, iodin, enzymol, powder insufflations, gauze-drainage—which serves to keep the meatus sterile, cuts off the entrance of staphylococcus, and drains and asepticizes tympanal exudations—inflation, alcohol, granulation removals, and the numerous other suggestions for pursuing this plan of treatment. Procedures of this kind are undoubtedly frequently followed by satisfactory results, both as to discharge and hearing, but it is more than questionable whether it is justifiable to positively or negatively assume that our weapons for battle are thus limited, and whether patients should be permitted to continue the possessors of a disgusting and dangerous condition, owing to professional and mental inertia or a fatuitous faith in the direct therapeutical interposition of Divine Providence.

Some ultraconservatives reluctantly admit that the time may come, in the treatment of a case, when the boldness of an ossiculectomy may be indicated, but that momentous event is delayed to the very last moment of several years, hoping that at last persistent and varied efforts will finally be crowned with success. They believe that in the narrow confines of the tympanic cavity there is much room for mishaps and that an ossiculectomy being performed out of sight, and with great dependence upon the tactile sense, is fraught with much possible danger, and cite instances where the facial nerve, jugular vein and carotid artery have been injured and infection has developed along venous or other channels to the intracranial contents, with fatal results, especially where a granulation plug occludes a communicating opening between the brain and tympanum, forgetting apparently the lamentable end of many patients who have with their lives testified to the inefficiency of this line of treatment, persistently employed. The mere question of thoroughly cleansing an ear is by no means a simple one in chronic otorrhea. It is frequently surprising how mass after mass of foul material can be forced away by painstaking use of an ordinary syringe, supplemented by a tympanic syringe, peroxid of hydrogen, alcohol and inflation, and much time may be consumed before an ear may be considered even moderately clean. It will thus be seen how irksome these procedures must become to a busy surgeon, when daily repeated, especially when occurring in dispensary practice.

Concerning the use of the more or less popular "dry treatment," it is difficult to understand how even ordinary cleanliness can be obtained without the use of an intratympanic syringe, especially when used with peroxid of hydrogen, etc. The attic, where the trouble is usually most pronounced, is a complicated structure, containing the ossicles and many folds and sacs, well qualified to retain mucus, pus, desquamations, etc., difficult or impossible to dislodge by a cotton-tipped probe. If not dislodged, these foul products must remain the focus of disease. While, therefore, fully aware of the unfortunate effect of moisture in these cases, the writer is of the opinion that of the two evils, the lesser is the one which makes an effort at a thorough cleansing of the parts, until all detritus has been removed and all odor—due to saprophytes—has been dissipated. The parts may then be dried painstakingly with cotton, inflation, dry, and possibly hot, air, and the desired treatment applied. The names of those favoring the indefinite pursuance of this method are numerically small, and growing smaller each year.

The conservative ranks are numerically the strongest and contain those surgeons who have graduated from the ultraconservative column, but are not yet ready to say that a radical operation is always indicated in chronic otorrhea. There is considerable diversity of opinion among these surgeons upon several points. For instance, some believe that the patient should be given the benefit of perhaps a year's treatment before any operative procedures are undertaken, which operation should then be an ossiculectomy and curettage, to be followed possibly later by a radical operation, especially if mastoid or head symptoms supervene, if irrigation expels cheesy matter or mother-of-pearl flakes, if the discharge continues fetid in spite of persistent irrigation, if granulations recur when removed or cauterized, and if caries, especially of the posterior attic or meatus, is present. Others again cut down the treatment period to one or two months, to be then followed by the operative procedures just mentioned; while others, who are about ready to swell the radical columns, are willing to treat the case for about one month, when, if discharge continues, an ossiculectomy or possibly a radical operation is advised. In the event of the latter advice the ossicles may also be dealt with as seems best after a thorough post-aural examination. Upon one point there can scarcely be a divided opinion, namely, that the thorough performance of an ossiculectomy and curettage is a long step in advance and places the patient in a much more favorable condition for drainage and treatment than before, even if discharge does not cease, or recurs. The operation is attended with but little annoyance to the patient; tinnitus and vertigo are often much relieved; the thickened and functionless tympanic structures are removed; drainage is much improved; the tympanum can be much more readily reached for treatment; hearing is often benefited—for if ossicular continuity is severed by caries of the malleus and incus, or retarded by pathological middle-ear products, such as exuberant granulations, cholesteatoma, etc., sound waves can not reach the labyrinth even with reasonable ease, and hearing is naturally affected—and all conditions are bettered even if a cure is not effected, which, if we are to believe the statement of many competent observers, is not by any means an event of rare occurrence.

It must also be remembered that even after the patient has been induced to undergo a radical operation we sometimes find during the operation that no especial disease existed in the antrum or cells, and that the operation has hardly been essential, and a regret must be felt by a conscientious surgeon, that more persistence in conservative treatment had not been exercised. This is emphasized by the reflection that even the radical operation is not always followed by a complete cure of the discharge (although some surgeons feel they can assure their patients a safe and sure result), which it appears should somewhat restrain enthusiasm for its universal performance. It should not be forgotten, however, that most serious and deep-seated pathological conditions are sometimes found in the course of a radical operation or at a post-mortem, when subjective and objective symptoms have been of the very slightest character.

The personal equation of surgeons should also be considered in the advisability of the advocacy of the frequent performance of the radical operation. This operation is by no means a simple one. There is probably no space of equal size in the body surrounded by so many dangerous elements as the space involved in the tympano-mastoid procedure. It is hazardous ground for the novice or for him who is not thoroughly grounded

in the topography and surgical anatomy and abnormalities of the parts. Again, all operators are not equally skilful, and an operation that might be reasonably safe in the hands of a Stacke or a Macewen, might be exceedingly dangerous when performed by some other aurist, who, while inexperienced, might be unwilling to admit it, and who might feel that he must follow in the steps of the master, even if his services are supplemented by those of the undertaker. It certainly requires conviction and courage to advise a radical operation in the absence of mastoid symptoms, especially in the early stages of a chronic discharge. So many people are unquestionably cured of such a discharge without an operation that patients who become familiar with this fact must indeed have supreme faith in their surgical adviser when they mount the operating-table under these circumstances, and it must be admitted that a consequent facial paralysis, impaired hearing, protracted healing, continued discharge, fistula or death, can not serve to exalt the professional position of the operator in the minds of the laity, the profession or even himself. Of course, the complexion of the case absolutely changes in the presence of long-continued discharge unchecked by persistent conservative procedures, cholesteatoma or of mastoid or intracranial symptoms, under which circumstances the patient himself frequently demands radical relief. But in the absence of such indications, no surgeon should be blamed for the advocacy of conservative measures, especially when it is remembered that a cessation of the discharge and improvement of hearing frequently follow ossiculectomy and curettage. These illy defined and insidious forms of chronic otorrhea with antrum or cell infection, but unaccompanied by palpable symptoms of such extensions, are certainly difficult ones in which to decide upon a plan of action unless one happens to be a radical in his opinions. The gravity of the situation may not be always measured by the quantity, quality or odor of the discharge, although these indications often mean much, but certain ill-defined symptoms, such as a slight rise in temperature, irritability, nervous exaltation, mental depression and general appearance of parts, are not without their significance.

Concerning the radical operation, it may be confidently stated that he must be very conservative indeed who denies the advisability of such a step in the presence of mastoid or intracranial symptoms, or of distinct organized cholesteatomatous masses. And there are many eminent surgeons who would not advise a radical operation in long-continued and intractable discharge without the above history, but there are at present comparatively few who are willing to go on record as advising such an operation as soon as chronicity of the discharge is established, say in a few weeks after the inception of the discharge. And yet we must not forget the eminence of authority on this side of the argument, nor fail to lay much stress upon their plainly spoken opinions. Most of the radicals are our teachers, men to whom we look for advanced and correct thought, and their sentiments can not and should not be turned lightly aside and dismissed as too extreme. It may be that their very eminence and skill in operating, however, has much to do with their results and consequent views, and the question may be most justly raised whether inferior but ambitious operators are warranted in following their leadings. Stacke, for instance, believes that ossiculectomy without the radical operation is a mistake, as it destroys ossicular aids to hearing. He advocates the radical operation as soon as the discharge becomes chronic, hoping thereby to save the ossicles and the function of audition. He says the ossicles can be removed later if necessary. Siebenmann, Jansen and Scheibe endorse these views, and the latter claims that in any case of otorrhea, if the odor is not removed by intratympanic syringing, the radical operation should at once be performed. Macewen lays down this axiom: "When a pyogenic lesion exists in the middle ear or in its adnexa, which is either not accessible or which can not be effectually eradicated through the external ear, the mastoid antrum and cells ought to be opened." This statement is in reality not so bold as would at first appear, for most surgeons would concede the advisability of a thorough exposure of the parts were they positively assured of pyogenic extension beyond the tympanic area. But such positive assurance is not always apparent, and in the dimness of an uncertain diagnosis hesitation is natural. It is like appendicitis: if suppuration could be positively located in the appendix no one would fear to operate, but in the absence of such an assurance surgeons frequently wait, fortified by the long list of recoveries without operation. Not many doubt the advantages of a successfully performed radical operation when the parts are thoroughly exposed to view and their complete inspection possible. Investigations may then be pursued in all directions, pathological conditions removed, pyogenic extensions prevented, asepsis secured, and a logical expectation of a cure entertained. Macewen claims that pathological middle-ear products can be removed not only easier, but safer by the mastoid than by the meatus route. He feels that in chronic otorrhea the tympanum is septic, and that operative procedures in this area expose fresh surfaces to pyogenic influences and simply court disaster. Such views are undoubtedly enveloped in much truth, but surely the radical operation itself is not utterly devoid of danger, and a properly performed ossiculectomy is most infrequently followed by a fatal or unfortunate result.

It will thus be seen that there exists considerable apparent diversity of opinions concerning the treatment of chronic otorrhea, and it would appear that much misunderstanding could be averted if conditions rather than a name might be considered. Some surgeons believe that cases of chronic otorrhea do very well under such and such treatment. Others believe that ossiculectomy and curettage are indicated, and still others that a radical operation must be performed. The old Oriental story is recalled of the three blind men who went one day to inspect an elephant. "He is like a spear," said one who grasped the tusk. "He is like a fan," said another who felt of his ear, while the third, with his hand on his leg, declared he was like a tree. They had all inspected the elephant, but naturally formed different ideas of his appearance. So it is with chronic otorrhea. Various observers form various views from various experiences, while if all would carefully inspect each case and judge of its treatment on its own individuality it would be seen that there is ample room for all opinions in considering this interesting subject and its treatment. A chronically discharging ear does not always indicate the same pathological conditions. A simple exudative mucous-membrane inflammation may exist, with imperfect drainage, which may be healed by an enlarged opening and simple treatment. Or exuberant granulations may be present, which are removable and curable. Or ossicular or mural caries may occur, relievable by acids, drainage, treatment, etc., or an ossiculectomy and curettage. Or the disease may have extended farther into the antrum, and even here it is not inconceivable that a

removal of intratympanic contents, supplemented by good drainage and proper treatment, may effect a cure, although it is admitted that the radical operation will usually be indicated. Or the mastoid antrum and cells may be involved and possibly the sinuses and intracranial contents, calling for prompt and large operative procedures. So instead of assuming that chronic otorrhea must always be treated upon certain clearly cut principles, it would be better to examine each case independently as to its pathological condition, symptoms, duration and character of its discharge, etc., and advise a plan of action harmonious with such unprejudiced examinations and observations.

The dividing pathological line seems to be the extension of the disease to the antrum. Before this occurs tympanic treatment and operations should prove sufficient, although, as has been before stated, Stacke and other eminent authorities believe that when a chronic discharge is established a post-aural operation should unhesitatingly be done, with the hope of preserving the ossicles and good audition. It is scarcely believed, however, that the profession is yet ready to accept these ultraradical views, especially when the danger of the radical operation in all hands is considered, and the very good hearing frequently obtained, even when the tympanum is swept clear of its contents. After the antrum is clearly involved most competent observers will agree as to the indications for post-aural operations, while even here many capable men wait for mastoid and other significant symptoms, although the supporters of this view are steadily growing less.

How then may we determine the existence of antral disease in a case without significant symptoms? It is impossible to answer this question definitely, there being no fixed rules by which to ascertain such extension in quiescent cases, and an opinion must be accumulated by composite observation, which is nevertheless reasonably trustworthy. Aural discharge, especially if persistently foul and profuse, continuing in spite of proper local treatment for a period say of three months, is a decidedly suspicious condition, particularly when accompanied by recurrent and persistent exuberant granulations and necrosis. Especially is this true if the membranal opening has been in Shrapnell's membrane, or in the posterior superior quadrant of the main membrane, and if carious bone can be located in the upper and posterior wall of the tympanic cavity, or if the upper and posterior walls of the deep meatus are red, bulging or sensitive. These observations are much strengthened if the discharge is cheesy or flaky or contains the streptococcus, influenza or tubercle bacilli, and if the tympanum has been cleared by an ossiculectomy and curettage. A case presenting such a picture, or even a reasonable portion of it, even if absolutely unaccompanied by mastoid or other significant symptoms, would certainly lead most progressive surgeons to unhesitatingly advise either an ossiculectomy or a radical operation.

It is impossible to deny that the trend of high professional opinion at the present time turns toward the latter view. Perhaps this is inevitable and proper, but let us not advance too hastily. Let us rather err in the direction of conservatism, feeling that important and complicated operations will be the natural evolution of added knowledge.

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Medical students in the German universities this winter show a considerable decrease in numbers. Last year there were 7543 in attendance, but at present only 7113.

BONY DEFECTS AND FISTULÆ IN THE EXTERNAL MEATUS.*

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The occurrence of artificial communicating passages between the meatus and attic of the middle ear is, on the whole, little referred to in literature; it is mentioned, but not commented upon, in some of the larger text-books. Some illustrations of it are given in Politzer's "Beleuchtungsbilder des Trommelfells," etc. Yet it is not a rare lesion, as I have seen considerably over 20 instances, and can refer now to some 20 complete records. The last 12 cases were found amongst 2000 ear patients. The defect is usually a fissure of variable size in the external wall of the attic, opening through the upper wall of the meatus above Shrapnell's membrane. In some instances it seemed to be a fistula instead of a complete gap, but it is not always possible to distinguish between two conditions.

Small defects are difficult to recognize by sight and may be found only by the use of the probe. The end in the meatus is often narrower than the opening into the attic, which is in rare instances exposed to partial view. The membrana tympani was totally gone, or nearly so, in a few of the cases. In most of them the tense portion of the drumhead was intact and the perforation limited to Shrapnell's membrane.

Most of the patients were seen on account of the discharge. Several, however, had no secretion at the time of the examination, merely asking help for their hearing. As in all forms of purulent otitis, the hearing in a given case may be very little or very much damaged.

The patients were all adults, who dated their ear-trouble back to childhood. No case was observed from the beginning. The origin of the gap in the bone must, of course, be attributed to caries, but no evidence of its continuance was found in most of my patients.

The existence of a fistula into the attic does not add to the gravity of a chronic case. In consideration that these were all cases of disease of the attic, their course may even be said to have been relatively mild, perhaps on account of better drainage. One time only were distressing symptoms—vertigo and headache—observed during a subacute exacerbation. Of 20 patients, 19 were cured without any operation, some being observed many months, others several years. Even the one patient not cured under treatment claimed to have lost the discharge by treating himself according to directions while on business travels; but this is only hearsay evidence. A cure for the time being was admitted only, if on repeated trials no trace of discharge could be found on exploring with a cotton mop, or on searching for it in the pus basin after syringing the ear. Relapse, however, must be expected in some of these cases, and indeed about one-third of them did return, sometimes repeatedly—after intervals of months or years. The relapses were as easily checked as the previously continuous disease.

A frequent cause of relapse is desquamation of the epidermis, which had grown through the fissure into the attic. Cholesteatomatous contents were found in six patients, often in the form of concretions, which could be picked out in a single mass. This process of desquamation continues after suppuration is arrested. Several patients have returned once in 1 to 3 years, pre-

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senting again the concretion in the attic, but without symptoms or odor. In none of the cases was there any reason to suspect that the desquamative process extended beyond the attic.

Relapses occurred also in a few who had no cholesteatoma. Under the head of relapse I do not include recurrence of secretion within a few days after apparent cure. This is quite common, and the observation should not cease until the ear has been dry a few weeks. The reasons for real relapses after months or years of apparent cure are not entirely clear—apart from cholesteatoma. Caries no doubt complicates a large proportion of all cases of attic suppuration, much more often than can be detected by the probe. The occurrence itself of a hole in the bone is proof that there was caries originally, though not necessarily present at the time of examination. But, contrary to views occasionally found in literature, caries does not prevent permanent recovery as long only as the pus is in no way pent up. Both among these patients with bony perforations, as well as among others without this complication, I have on record many permanent cures, in spite of existing caries, confirmed by re-examination after years. As long, however, as the foul odor of the discharge shows interference with free drainage, recovery is out of question. On the other hand, necrosis of bone with the presence of a sequestrum is an absolute barrier to the cessation of the discharge.

The treatment of chronic otitic suppuration is not altered by the existence of bony defects, perhaps even facilitated. The all-important condition is the complete removal of all pent-up discharge, as well as cholesteatomatous masses. Granulations need to be curetted only if they interfere with drainage. An infallible guide for controlling the efficacy of the treatment is the odor of the discharge. A fetid smell shows pus-retention, even if it be only on a microscopic scale. As long as this exists no complete cure is possible, while the removal of the odor is proof positive that the conditions are now favorable for cicatrization. Formerly, after mechanical cleansing by the syringe, a fine intratympanic canula and the curette if needed, I depended mainly on insufflation of boric acid, varied sometimes with instillation of alcohol-ether solutions of iodoform and carbolated glycerin.

After many years of use of this method in chronic otitic suppuration in general, I am still satisfied with its efficacy and promptness, provided it succeeds within a few days at the most in completely conquering the odor. The continuance of this treatment is, however, absolutely useless if the odor does not yield. A potent additional measure was suggested, first, I believe, by N. Pierce, about three years ago. It is capillary drainage by a gauze drain. A peculiarity of this method, which has not been pointed out before, is that it will gradually remove the odor in eight to fifteen days, while lessening the discharge. Intratympanic syringing and the use of the curette followed by boric acid powder either deodorize in a few days or fail altogether. Gauze drainage, on the other hand, may not change the smell until the discharge has nearly stopped. While in the cases now under discussion at least a temporary, and mostly a permanent, cure was obtained by these different methods in all but one doubtful instance, even the drainage method will, of course, fail at times in chronic otitis. When the attic is obstructed by adhesions around the carious ossicles, nothing but ossiculectomy, and when the antrum has carious walls or cholesteatomatous contents nothing but radical operation can cure the disease. The drainage method, however, limits the indication for these surgical measures. Only I am not yet assured regarding the permanency of cure by gauze drainage.

Capillary drainage is effective only if the absorbing material is almost in contact with the secreting focus. I can suggest an improvement on gauze strips, as they often cause pain when pushed in with the probe. For some months I have used strips of sterile blotting paper, about 0.5 millimeter wide and 20 long. They absorb more energetically than any gauze. As additional aseptic precaution I have powdered them freely with boric acid. They can be inserted through the speculum with scarcely any discomfort, and made to touch the drumhead or exposed internal wall of the middle ear. The auricle is then packed with gauze powdered with a mixture of boric and salicylic acids.

DISCUSSION ON PAPERS OF DRS. KNAPP, RICHARDSON, CALHOUN, DENCH, ALLPORT AND GRADLE.*

DR. W. K. SIMPSON—One thing interesting to me was in Dr. Allport's paper, as to what should be done in cases of chronic suppurative disease of the middle ear, as to whether we should treat it or whether we should be radical, and the question arises: why are some men radical? If we will study some of the cases Makuen reports, we will see why he is radical. When we consider some of the cases that come to him that have been left to God Almighty and the syringe, and badly neglected, it is no wonder that Makuen and such men are radical. It is proper for the essayist to dwell upon this matter, but it is a question that we must decide for ourselves. The treatment of intracranial affections recalls to us, who went into the study of medicine about the time appendicitis was discovered, a parallel of that disease. The large number of patients who formerly died of "inflammation of the bowels" we now know died of appendicitis. And so now we know that many who formerly died of "brain fever" died of disease of the middle ear. "Brain fever," like "inflammation of the bowel," covered a multitude of evils. The difficulty of diagnosing intracranial lesions in children has interested me very much. I have accumulated a few cases with the specimens. This one it seems to me is dependent on, in the first place, anatomic elements, and in the next on physiologic elements. The cerebral centers are not thoroughly established, and I am satisfied that if we wait in a child, to make the diagnosis, until we can make one of these feather diagnoses we read about in the text-books, we will not make one in time to save the child's life. The diagnosis in most instances has been made by what we might call main strength and awkwardness. [Laughter.] Perhaps I had better illustrate what I mean. We know that one case does not prove very much, but it takes a good many things in inductive reasoning to prove anything. The case was one of a child 3 years of age, in which the doctor called me and said the child seemed to have typhoid fever, but did not have the typical typhoid temperature. The child had not spoken for two weeks. The pupils showed nothing, physical examination showed nothing, and there was nothing to localize the trouble. But there had been a discharge from the ear for some months. I reasoned that here is a child that probably will die soon if nothing is done. I believed that there was present a suppurative otitis media and the chances were that the temporosphenoidal lobe was involved. I knew that I could not wait, so I operated at once without an anesthetic and the child got well.

DR. O. JOACHIM, New Orleans, La.—I desire to present for inspection a specimen obtained from a patient I operated on. When he came under observation he was delirious, unable to answer any questions and presented all the symptoms of intense pyemia from purulent lateral sinus thrombosis of otitic origin. I operated promptly and found extensive alterations. There were perisinual and epidural abscess and other extensive disease areas. The jugular vein was tied and the sinus was flushed both from above and below. The patient did badly. He lived twelve days. The post-mortem examination made at

* The papers of Drs. Richardson, Knapp and Calhoun were published in THE JOURNAL of February 23.

that time showed, beside other changes, numerous metastatic processes in the lung, perhaps one hundred abscesses in one lung and about thirty in the other. The condition was an extreme one from the beginning and admitted of very little hope. The specimen here speaks for itself. It presents some necrotic spots on the superior surface of its petrous portion which could not easily be removed by operation.

There is another case I operated on immediately after this one that presented a few points of unusual interest, and as there are many oculists here, I wish to recite one of them. It was an acute condition. I saw the patient after the first chill; he walked into the hospital. We operated the second day. After operation there was an immediate fall of temperature. We had all the symptoms of pyemia due to sinus thrombosis. We operated and cleaned the involved areas, tied and flushed the jugular. The patient made a quick and prompt recovery. He developed facial paralysis, which was probably due to the operation. Before the operation he complained of double vision, which persisted for three weeks after it. By degrees he developed a complete bilateral abducens paralysis; with this appeared central blindness affecting both eyes. The oculist reports that there is some vision left, but not enough to admit of a useful occupation. The connection between the eye and ear trouble is interesting, and it is important to elicit their cause.

DR. KIRKENDORF—I have a patient on whom I did the radical operation for mastoiditis. He did well for fourteen days, at the end of which time he developed paralysis of the abducens. On the following Wednesday he complained of double vision. I examined the fundus and found it perfectly normal. The only trouble I could see was that the external rectus was paralyzed on the side on which I operated. On the following day I did a secondary operation to make sure my primary one was all right. I secured thorough drainage from the antrum and attic, and, not finding any trouble there that would account for the disturbance, I followed up the lateral sinus and, finding no accumulations in this, stopped my work there, then trephined an inch above the external auditory meatus and took out a piece about an inch in circumference and found the dura mater more or less granulated. Pulsation was marked. I suspected an abscess of some kind in the middle fossa or deep-seated, but the physicians who were with me felt intent on further operative procedures, and so I introduced a needle in various directions, but was unable to find any pus. I then desisted and packed with iodoform gauze, and the next morning the patient was free from septic trouble. There had been a temperature of 103 degrees before I operated the second time, but the next day the temperature was normal and there was no diplopia. Later he had diplopia. Vision was then normal.

DR. G. L. RICHARDS, Fall River, Mass.—I have two cases to report in connection with the papers of Dr. Allport and Dr. Richardson. One was a case of otitis media with brain abscess. The patient had his hair cut two weeks before the operation. He had an apparently slight otitis media suppurativa, for which he entered the hospital and was finally discharged improved. On his way home he lost his way in a swamp, was searched for and returned to the hospital with a total paresis of the left side, a dilated pupil of the right side, and totally unconscious. He was operated on by me, and almost total destruction of the right lobe was found. Death resulted three days later. The question arises: how long should we wait in these cases? Twenty-four hours before operation this man gave no evidence that he was in this tremendously perilous condition. It only reminds us that every case of otitis media suppurativa is grave until it is well.

The second case was a sea captain who had an otitis media suppurativa. When I saw him there was some mastoid tenderness and I requested permission to operate as soon as I could get the instruments together. I was not allowed to operate until forty-eight hours later, when I did it as thoroughly as I felt warranted in doing. The patient got along well until pain and swelling appeared along the muscle on the opposite side. This I attributed to the operation. After that the patient came under the observation of another man. He was later operated on for multiple abscesses on the back of the neck. It seems that he was developing a moderate, slow degree of septicemia, which broke out on the opposite side, and the forty-eight hours' delay had something to do with that. General constitutional infection may take place simultaneously with the breaking down of an abscess.

DR. TAYLOR—I would like to mention a case in connection with the class mentioned by Dr. Calhoun. For a long time I did not believe it possible that we could have mastoid inflammation without suppurative inflammation of the middle ear. But a year ago last April a child was brought to me that had had no ear trouble, so far as the parents or the family physician knew, and yet that child had well developed mastoid disease. The ears were standing out and it was very evident that there was pus present. I did what I supposed to be a radical mastoid operation, removing everything until we came to solid bone in every direction. The child recovered promptly and well, but one year later, in April, 1900, without any ear symptoms, without any pain whatever or anything to indicate that there was trouble there, the same trouble slowly developed on the same side. At the time the patient was not living in the town where I was, but was away on a visit, and was brought home to me. I operated the next day, removing everything possible, and I even went through the skull, so that there was no possibility, I thought, for any return of the trouble. The patient recovered very nicely. The child was in a very much run-down condition and we gave cod-liver oil internally, and it was brought down to Atlantic City to recuperate. When it left home there was a slight enlargement of the glands below the ear. The child was brought back about the middle of May with the same trouble well developed in the other ear. A radical mastoid operation was performed on this ear. This is a case in which mastoid disease developed on both sides without any indication whatever of ear trouble. I saw the child the day before performing this operation, and I examined the ear thoroughly without finding any bulging of the membrane or any indication of middle ear disease.

DR. B. ALEXANDER RANDALL, Philadelphia—*Apropos* of the Doctor's case, the only one I had the honor of treating with Dr. Calhoun was a patient in whom there was no apparent tympanic involvement at the time the operation was done. It was one of the cases that later required a second operation. I am glad the discussion has taken the form it has, and I am very grateful to Dr. Knapp for beginning the matter as he did; for unless these subjects are considered from the very basis and all the underlying and fundamental points, however elementary, are considered, we are likely to misunderstand and draw wrong conclusions. Dr. Allport's paper sets forth many differences that arise in the opinions of various men from the exigencies of practice and the varying conditions with which we are surrounded. Different men see different groups of cases.

It is interesting to know how many cases of ear disease tend to mastoid inflammation, because it is very variously viewed by different men. It is quite different in a small town from what it is in a large city, and a teaching clinic will find cases much in excess of those found in private practice, where a man is likely to know the beginning and ending of cases, as the man in a clinic in a large city can not possibly do. At least 1 per cent. of my cases have shown disease demanding attention—at least 4 per cent. showing mastoid disease of marked character. Latterly I have seen above 2 per cent. of operative work, based on my total number of new cases seen each year. On the other hand, the cases of mastoid inflammation which did not eventuate in such need were also numerous, in that every year I have about one hundred which go through without any operative need. I do wish to claim that following much such lines as have been laid down by Dr. Allport with the hot douche and such similar measures, the majority of these cases, unless they be streptococcus cases, can be brought through with good conservative measures. The Doctor's remarks in regard to the black race are very good, but my statistics would not show the same thing. Perhaps half the population around the Polyclinic, in which I work, is colored, and here the number of cases of ear disease and mastoid cases that I have seen in the colored race would apparently entirely conflict with the Doctor's view. Among them I have seen many cases where without any apparent involvement of the tympanic cavity, there was extensive mastoid disease. The point brought out by Dr. Knapp is of exceeding importance, and elementary as is the matter it is essential that we bear in mind the fact that we have to deal in these cases with a condition of the whole middle ear. The middle ear begins at the paryngeal mouth of the Eustachian tube, and does not end until you reach the last pneumatic cell in the mastoid, or wherever it may be. Therefore the question of otitis media is a much broader one than is indicated by some men.

We should bear in mind the anatomy of the tympanic cavity. I have much to learn about the anatomy, but one thing which I do know is that unmistakably and as a fundamental fact we have three portions of the tympanic cavity: the attic, the antrum and the atrium, or tympanum proper. Until the anatomy which I have indicated is kept in mind, there will be much poor work done. We should use specific terms instead of generalities and personal names. We should clean out the attic and atrium as well as the antrum in chronic cases. If

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we deal with these cases of middle ear disease without bearing in mind that the chronic cases differ from the acute, we will fail in a large proportion. Of course the streptococcus cases are serious from the very beginning, and the ones we bring to an apparent cure will often go to the grave with brain disease or other serious trouble, possibly involving the other side of the head. In the chronic cases, if we content ourselves with opening the antrum alone without opening the attic and tympanic cavity as generally understood, we will often fail. So in the thrombus cases, the acute ones usually begin in the jugular bulb and are frequently obliterated at that point. Ligation of the jugular is thus not necessary in these cases, while it is essential in others. We should carefully study our cases in order to properly understand with what we are dealing.

DR. J. HOLINGER, Chicago—The term "radical operation" was several times used this afternoon for operations that were not radical in the original sense of this word. A very clear description of what is meant by the term may be found in the *Berlin. klin. Woch.*, No. 1, 1893. I was much interested in the paper of Dr. Gradle. Fistulæ of the external meatus, which are on its roof, are very often found in connection with suppuration of the attic. Fistulæ on the posterior wall of the external meatus are of different clinical importance. The different forms of fistulæ have different dignity, clinical and pathological, and they require different treatment. Fistulæ from the attic may heal as a rule much easier, after a few treatments, while fistulæ from the cells often have a sequestrum in the depth and will yield only to extensive operations.

DR. E. C. ELLETT, Memphis, Tenn.—I would like to make a statement in regard to the colored population not in accord with Dr. Calhoun's statements. I have been criticized on some observations I made as to the non-occurrence of adenoids in the negro, but about one-fourth of the mastoid cases I have operated on have been in the colored race. We do not have as much catarrh or ear trouble among the colored people as we do among the whites. One or two of the mastoid cases in the negro have been apparently unconnected with any preceding trouble in the tympanic cavity. Some of those I have had reason to believe were tubercular. In the negro, as in the white, we see few cases of mastoid trouble in comparison with the total number of cases of middle ear trouble. I have operated at as early an age as 6 months on typical cases, although there have not been many such instances. I would like to pay my respects to Wilde's incision, for if there is any procedure that has no place in surgery it is this so-called Wilde's incision. If the operator does not find a fistula in the bone in the cases where there is a subperiosteal collection of pus, it is because he does not look close enough for it. If there is not any pus outside of the bone this procedure accomplishes no more than can be done by leeching and the application of heat and cold. In the last two cases I operated on, one an adult and the other a child, there was a collection of pus outside of the bone, and it was only by the closest search with the probe that I could find the sinus. It could not be found by simple inspection. My experience with ossiculectomy and tympanic curettement has not been brilliant. One of the gentlemen mentioned a case with a rise of temperature after operation which was confusing. In the last case I operated on, the temperature had not yet been below 99 F., and about three days after the operation the face was swollen and the temperature went up to 102. It was due to mumps.

DR. H. KNAPP, New York City—I wish to report a case of osteomyelitis which belongs to the discussion. These cases are very rare. Recently a young man came to me with an immense swelling behind the ear. The bone all around was swollen and red. There was no fluctuation. From the antrum I liberated considerable pus, and there was a large quantity in the posterior cranial fossa. The sinus laid bare was covered with granulations which were very firm and could not be scraped off. I opened the bone back of the mastoid and found its diploë swollen, softened and full of small disseminate nodules of pus. Further back I found a large subperiosteal abscess which communicated with the posterior cranial fossa by a fistula situated about midway between the torcular and the knee of the sigmoid sinus. I thought I did a rather radical operation. The young man has not had any fever, he never had any chills and he did perfectly well for some time. Then all at once there was a temperature of 102 F. When I examined the case I found the flaps behind, where I had entered the mastoid, were swollen, and there was evidently a collection of pus. About five days later another abscess from above made its appearance from under the flap. When I left there was no fever at all, but to-day I have received information that there is a swelling under the trapezius muscle and a temperature of 103 F. My son says that if the patient is not better soon they will open it again. It is a rather extensive case of osteomyelitis. Operation at once allays the fever. The patient has not had any chills, but it is quite likely they soon will follow because this condition of the dura mater over the sinus is very suspicious.

I can also mention a case that is in the hospital yet, a child who came with a well-pronounced mastoid abscess. I told the parents it ought to be operated on at once. They decided to go home. That was the last I saw of them for five weeks, and then the child was brought in in a semicomatose condition, with a temperature of 105.5 F. I operated on it and found pus in the posterior cranial fossa and granulation tissue, not the same color as in the other case, but very thick. That child had a chill the next night. The next day I operated on her and found the sinus clogged with granulations, which were like the granulations outside, but contained some blood. But no blood came from behind or above. I went in 2½ inches with the probe, until I got blood. It was evidently a thrombus. I went down into the jugular fully 2 inches before blood appeared. The operation has been followed by a very good recovery. [August 8, 1900, patient has completely recovered.]

DR. EMIL AMBERG, Detroit, Mich.—I am extremely glad to have heard the contributions, and especially Dr. Knapp's remarks on the skull. These are questions of fundamental importance. We know that in case of adenoids sometimes the nasal syringe is used. Such an instrument should be abandoned, especially with children. I am glad Dr. Knapp mentioned tympanomastoiditis, because we know from Politzer that every time the tympanum is infected there is some possibility of infection of the mastoid by the presence of pus. It is important that the use of the air douche should be abandoned in acute otitis media after a paracentesis has been performed. I do not regard a normal temperature as a contraindication for mastoid operation. As to primary mastoiditis, we know the frequency of this disease in cases of influenza. The small number of mastoid cases in the South may perhaps be accounted for by the comparative rarity of coryza, if such exists. The children do not, perhaps, blow the nose so much in the wrong way. I tell my patients not to blow the nose with both nostrils closed. I do not think I will use peroxid of hydrogen in these cases on account of the possibility of the distribution of micro-organisms by the bubbles. Dr. Allport has used the term, "the personal equation." This is a serious question, but the explanation can be found in an entirely different place. A knowledge of the anatomy is of great importance in otology, and I should like to know in how many medical schools there is sufficient material to exercise the hand and eye in order to be able to perform these operations afterward with due skill.

DR. NORVAL H. PIERCE, Chicago—I have found cases in children below 6 months of age. They are characterized by pain, temperature about 100 F., and swelling such as usually occurs in mastoid inflammation. In the first case I cut down and got a serous fluid, but no pus. This was beneath the periosteum and probably ran along the posterior surface of the external auditory canal and the middle ear. The other case I saw was very much like this and occurred soon afterward, and I put in an exploratory needle and drew off serous material without any pus. Flocculent particles containing round cells were found. Recovery followed without any symptoms whatever. There was no perforation of the tympanic membrane in either case.

DR. MCCARTHY—I have a case that illustrates the remarks by Dr. Knapp in reference to the cancellous tissue that exists in the upper wall of the canal and extends into the horizontal portion of the squamous. A baby had earache and was brought in eight days afterward. On examination there was found no discharge from the canal, but a slight swelling above the auricle. There was absolutely no temperature. The baby nursed and smiled and seemed to be pursuing the natural course of life. An ice-bag was put on because of the swelling. The case ran along for about a week, the swelling still existing. One day the baby refused to nurse and I decided to open up the mastoid. There was a perforation into the middle fossa. The dura was exposed and a necrosed portion about the size of a dime was seen. The further course of the case was uneventful. The child showed no rise of temperature. The case would show the value of making the diagnosis of mastoid or intracranial trouble, and would also put a man on his mettle as to when he should operate. There was a point very well brought out by one of the doctors, which showed the fallacy of regarding the antrum as a separate portion of the tympanum. The antrum has been termed the "drip-cup of the attic." The antrum often is found filled with pus. The cavity of the tympanum proper would never hold the pus that is formed. It is very much like a case of dacryocystitis. You

may have a purulent conjunctivitis and if the pus is drained through the nose there may be no dacryocystitis, but let there be some occlusion and inflammation at once takes place, and so here the pus is retained if there is occlusion, and then we get the typical symptoms of mastoiditis. In regard to the occurrence of mastoiditis in the negro, Dr. Calhoun's cases must be very mild, for I have seen many cases in the negro and I do not think there is any differentiation to be made as to the negro race. There is no doubt that not every case of mastoiditis needs operation, but how we can determine how many need it and how many do not is very difficult to answer. While the discharge keeps on from the tympanic cavity considerable regard must be paid to the temperature. I can not conceive of an adult having a temperature from an ordinary otitis media, especially after some two weeks. I had a case which taught me the lesson of not confiding too much in the patient. I had a man with an otorrhea, an acute otitis media, and I opened the drum and the discharge gradually slackened up. I used alcohol and the next day he developed a sclerosis wherever the alcohol had touched. He told me this happened wherever alcohol was used on the skin. The stenosis gradually diminished. When the drum was seen it was found to be healed and the man gradually got better by the introduction of gauze. Two or three weeks afterward he came back complaining of neuralgia, which reached forward to the eye. I told him to consult his family doctor to see if he could find any cause. The patient had a course of phenacetin and other analgesics, and then came back to me. I put him in the hospital and watched him for a few days, and the temperature went up to 102 F. I then operated and found the mastoid not involved. On exposing the sinus I found it covered with granulations and the sinus wall was thickened.

DR. S. F. SNOW, Syracuse, N. Y.—There have been a few points brought up that I would like to emphasize, particularly the hot water method that Dr. Chambers has mentioned. I know that hot water injected as he describes does good. It will control a good many cases where we even have pus in the mastoid. I, personally, am using ice, for the simple reason that cold constantly applied without any chance for the temperature of the part to rise again after it is put on, controls the inflammation the same as hot water does, and it also prevents the multiplication of pus elements. I have been conducting a series of observations that show quite conclusively that if we use ice in this way we will avoid operation in fully 25 per cent. more cases than under the usual lax method. There is no limit to the time ice may be constantly applied, so long as it continues to do good. We are justified in keeping it on beyond "thirty-six or forty-eight hours" if the symptoms continue to improve. At least let us use it during the interval that usually exists between our diagnosis and the actual time of operation.

DR. L. J. LAUTENBACH, Philadelphia—There are all variations in cases and treatment. I wish to mention a case operated on by Dr. Fulton. There was some caries of the middle ear discernible. The case followed scarlet fever in childhood. There had never been any pain; there was a constant discharge and no hearing. The patient was operated on a year and a half ago, and within twenty-four hours he left the hospital and never afterward had a symptom. He was in my office about a week ago, and he could hear the watch at ten or twelve inches and could hear the voice very readily. It does not seem reasonable that all cases should be examined by the same standard. For instance, that individual would have sacrificed at least much of his hearing. If our treatment is conservative we should make it so, and if it is radical it should be radical. But every case must be studied carefully and then only can we decide the proper treatment to institute. If I find one thing fails I then go a step further. We may, in our papers and discussions, be dogmatic, but in our treatment we all do the best we can in each individual case.

DR. H. KNAPP, New York City—One of the gentlemen asked me to say a word about the ophthalmoscopic condition in sinus thrombosis. In many cases I have noticed that they can be diagnosed very readily. First to appear is retinal congestion; the veins are enlarged and tortuous, first on the side of the affected ear, then in both eyes. Then the retinal congestion develops into the picture of neuroretinitis; optic discs and adjacent retina are diffusely swollen and opaque, not the picture of abrupt jockey-cap elevation of the choked disc from cerebral tumor. Then when the sinus thrombosis is recovered from, spontaneously or by operation, the ophthalmoscopic signs disappear *pari passu* with the progress of the recovery, to end in perfect restoration of sight. The interrupted course of the pyemia, in the affections of joints particularly, is accompanied by corresponding aggravation and improvement in the ophthalmoscopic condition.

APHASIA WITH LETTER-BLINDNESS, WITHOUT WORD-BLINDNESS; WITH RIGHT HEMIPLEGIA AND PULMONARY TUBERCULOSIS.*

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PHILADELPHIA.

I wish to make a brief record of a case of pulmonary tuberculosis with intercurrent hemiplegia of the right side and motor and sensory aphasia, with letter-blindness, but not word-blindness. The patient is a physician and a member of the faculty of a well-known institution. He is now 35 years of age; he had pneumonia sixteen years ago, and had a slight attack again two years ago. His tubercular infection is probably now of about four years' duration. At the beginning of the year 1899 both lungs were infiltrated; the right, generally consolidated. The fingers were clubbed.

January, 2, 1899, he had a sudden paralysis involving the right face, arm and leg. It was apparently simultaneous throughout this distribution, and did not extend from one area to another. There was a short period of unconsciousness. I saw him the next day at the request of Dr. D. D. Stewart, of Philadelphia. During the first twenty-four hours he could speak only the word, "no." In the next twenty-four hours he could speak four words and could move his right arm and had good control of his facial muscles; these muscles, however, were not so well innervated on the following day, but quickly regained their normal power. Sensation was good all over the body. The tongue was protruded to the right and the affected arm and leg were moved freely. The knee-jerks were normal on both sides; the plantar reflex was also normal. On the ninth day he walked to the sitting-room and insisted on helping himself to tobacco and a glass of wine, and from that on he steadily gained power. I examined the visual fields for form, but was not able to distinguish any departure from normal. January 13 the patient was able to write his name for the first time, and his vocabulary was steadily increasing.

When shown a silver pencil he could not name it; when he was asked if it was a knife he said, "no"; a piece of wood, "no"; a pencil, "no" (word-deafness). When he was asked if it was something to write with, he answered "yes." Upon being asked if a key were several things, including "key," he said "no." Having been asked if it was something to open the door with, he said "yes, yes."

On January 20, the patient was shown a silver dollar; he could not say what it was. "Is it a watch?" "No." "Is it a wheel?" "No." "Is it a piece of iron?" "No." "Is it a dollar?" "Yes, it is a dollar." The patient was given a few coins; he added them in a correctly built column with the total value correct. He mispronounces some words and substitutes words incorrectly in a sentence. For example, he said: "the quiet was," instead of the reason was; "spade," for paper; "glass of ice water," for a pair of scissors; "was late," for he was weak; "blockade," for dump; "bathree," for paper; "put those groups afay for me," for put those grapes away for me—paraphasia.

He read the daily paper regularly and read McMasters' history of the United States and enjoyed it. He

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had letter-blindness, but not word-blindness. When shown the alphabet he counted "1, 2, 3," instead of a, b, c. When shown "o," he could not call it; neither could he call "i," "l" or "d"; but shown the words boy and child, he instantly pronounced them. He said "boat," for cars; "pipe," for glasses; "spoon," for comb and so on.

The tubercular process was marked by dulness extending posteriorly as far as the angles of both scapulæ and by soft mucous râles in both apices. Tubercle bacilli were present. There was no fever at any time, and the pulse ranged from 76 to 88. There was no hemoptysis. His treatment included potassium iodid, 5 to 10 grains, t. i. d., and the subcutaneous injection of antitubercle serum in the upper arm at intervals of from two to four days, until the latter part of March, 1899, when he went, on our advice, to the orange district of southern California. Now, after nearly a year and a half, he enjoys a fair amount of health, his tubercular process is not checked, his aphasia and agraphia are still present, though in less pronounced degree.[1]

Without going further into this case, it is interesting to note the occurrence of hemiplegia in the course of tuberculosis. Whether in this case it was due to a hemorrhage, a thrombus or an embolus we can not positively say; it was probably the latter. The letter-blindness is a most interesting and unusual feature. We may have word-blindness without letter-blindness. Letter-blindness is not always looked for, and that is partly the reason why so few cases have been recorded. Dr. Hinshelwood,[2] of Glasgow, has recently published a clear exposition of the subject, with records of interesting cases, and he shows that if by disease, the visual word-center is completely destroyed, or if it is completely cut off from the primary perceptive centers in the occipital lobes then the patient is both word-blind and letter-blind. But if the destruction is only partial, and that part of the center in which are stored the visual memories of letters remains intact, then the patient, though still able to recognize the individual letters by sight, will no longer be able to recognize and interpret words, because he has lost the visual memories for words, which he had acquired by years of laborious effort.

Clinical evidence goes to prove that all these memories for words, letters and figures are functionally independent and have a distinct and separate anatomical seat. It would appear that the positions of these three centers are adjacent, and while the boundaries have not been defined with precision, pathological experience tends to prove that the centers in which are stored the visual memories of letters and words includes the supramarginal and angular convolutions, both of which belong to the inferior part of the parietal lobe.

In most people this center is supplied by the left Sylvian artery, and in the case which we have reported, it is quite likely that, being a right-handed man, an embolus or hemorrhage of this artery caused the hemiplegia and the consequent aphasia. In cases in which either word-blindness or letter-blindness, or both, exist without hemiplegia we may explain the lesion as situated in a branch supplying the visual word or letter center, while the branches going to Broca's convolution and the motor areas for the face, arm and leg remain undisturbed. In our case the hemiplegia was comparatively transient, function was restored in a few days, but the aphasia persists at the end of nearly a year and a half, much to the annoyance of the man whose living depends on the free exercise of his highest intellectual faculties.

1. The patient died in California, of phthisis, in the summer of 1900.

2. James Hinshelwood: Letter-, Word-, and Mind-Blindness, London, 1900.

DISCUSSION.

DR. F. SAVARY PEARCE, Philadelphia—In regard to the recovery from hemiplegia, and in regard to tuberculosis of the brain, I simply wish to record my feeling that hemiplegia or paralysis from the tubercular processes, which apparently this case was, are more apt to recover, at least transiently, than paralyses from other causes, such as hemorrhage or even from specific disease. I remember full well the instance of a young child who had a tubercular meningitis with sequent hemiplegia. A shifting of the paralysis from one side to the other, involving the leg and the right side of the body, then one extremity after another in order of pressure made or relieved by the exudate or its absorption. The case came to autopsy, and we found tubercular exudative processes then to be mostly about the base of the brain. The palsy had shifted in this case, due to exudation and absorption with shifting pressure results.

DR. JAMES H. MCBRIDE, Los Angeles, Cal.—There are occasionally peculiar transformations of aphasia in syphilitic brain lesions. One patient I had was attacked a number of times with motor aphasia, from which he recovered; then at other times with auditory aphasia; and at others with visual aphasia. The form was distinct in each instance, and he again and again relapsed and recovered, sometimes having one form and at other times other forms.

About 1874 there was reported, in the *British Medical* Journal, the case of a right-handed child who, at 10 years of age, had a lesion in the left third frontal with motor aphasia with subsequent recovery of speech. Two years later a similar lesion on the right side produced permanent aphasia. An autopsy showed two lesions, the first in the left hemisphere, the second in the right.

DR. W. G. SPILLER, Philadelphia—When he observe a case of aphasia with localizing symptoms, we naturally incline to the belief that there is a focal cerebral lesion, but such cases may occur in which a lesion can not be seen either by the naked eye or the microscope. I récall a case in which no signs of nephritis had been found, and the symptoms of aphasia were sufficiently localizing to justify an operation. The day before the one set for the operation, evidences of nephritis were found, the operation was postponed, and after the nephritis had been treated, the aphasic symptoms disappeared. I have recently seen a case of Dr. Lloyd's, with localizing aphasic symptoms without any lesion whatever in the brain. This patient also had nephritis. Cases of hemiplegia and aphasia have been reported in which carcinoma has been found in various parts of the body. In one or two of these, lesions have been detected in the meninges; but in others no lesions which would explain the symptoms have been found. I am not aware that any one has reported cases of tuberculosis of various organs of the body causing aphasia, but if aphasia can occur as a result of some poison produced by carcinoma, it might possibly be produced by tuberculosis.

DR. GUY HINSDALE—I did not look upon this case as being one in which tubercular deposits occurred in the progress of the disease about the centers which govern speech and writing. It seemed to me more likely inasmuch as there was an exceedingly rapid onset in which the paralysis extended immediately over one-half of the body with the rapidity of a thunderbolt, there was probably an embolus, or something that was carried to the brain through the circulation from some point of softening in connection with the pulmonary tuberculosis. Of course, we have thrombi of the extremities in cases of pulmonary tuberculosis, giving rise to the most painful symptoms; why not also a thrombus or embolus in the brain?

Recent public health legislation in New Zealand consolidates and amends the law previously in effect there. It provides for a minister of public health, to be appointed from the Executive Council, by the governor, and bestows exceptional powers on district health officers.

COMBINED SCLEROSIS OF LICHTHEIM-PUTNAM-DANA TYPE ACCOMPANYING PERNICIOUS ANEMIA.*

MARK A. BROWN, M.D., F. W. LANGDON, M.D.,
AND D. I. WOLFSTEIN, M.D.
CINCINNATI, OHIO.

ABSTRACT OF CASE BY DR. BROWN.

I was first called to see the patient early in July, 1899. He had been in failing health, with varying periods of improvement for between three and four years. To about a year previous to my first seeing him, however, he dates his illness, but was able to be about attending to business until February. The principal point noticeable at first glance was the marked emaciation, and the peculiar color to the entire body; not the blood-cancerous cachexia, nor the anemia of Bright's disease, nor the bloodlessness of the tuberculous, but a brown-yellow color which I have never typically seen save in pernicious anemia. To rule out any other cause, however, a careful physical examination was made. The heart, aside from a soft basal systolic murmur, probably anemic in character, was normal, nor could anything wrong be detected in the lungs. The liver and spleen were not palpable, and were of normal size on percussion. Remembering the similarity that often exists between carcinoma of the stomach and pernicious anemia the usual tests were applied before the former could be eliminated. The urine was normal. The probable diagnosis of pernicious anemia was made and the blood examination, July 8, 1899, resulted as follows: The blood, obtained only on deep puncture, was very watery, with no tendency to coagulate. A small hematoma rapidly formed in the lobe of the ear. Reds: 1,279,440 (288 squares); whites, 3600 (1200 squares). The hemoglobin estimation average of three tests—ten drops used at each test and the result divided (Fleischl instrument)—was 32 1/6 per cent., so that the color-index was 1.3. A subsequent note states that blood films took the Ehrlich triple stain with marked polychromatophilia. Poikilocytosis was very pronounced. The stained specimen showed numerous nucleated red corpuscles, the megaloblasts greater in number than normablasts. From this examination, not only was a diagnosis of pernicious anemia unmistakable, but the prognosis could be stated as absolutely fatal. The usual treatment with Fowler's solution was instituted, and the patient was soon able to take 15 drops three times a day. Occasionally symptoms of poisoning would supervene, when the arsenic would be discontinued for a while. He seemed to gain under this treatment, except in his legs, which became progressively weaker and more emaciated. The patellar reflexes, right and left, were hypersensitive. The appetite was enormous, the patient seeming never to get enough to eat. During the summer the fact most worthy of note was a genuine attack of insolation, with temperature 107, flushed face and full bounding pulse. He recovered completely from this in about ten days. I saw him occasionally during the fall and early winter, and he appeared to be holding his own, except for the weakness of his legs. He thought that electricity might be of some benefit in nourishing the wasted muscles, and asked me to advise him as to hospital treatment. He entered the Cincinnati Hospital early in January, 1900, on the service of Dr. F. W. Langdon.

ABSTRACT OF CASE BY DR. LANGDON.

A. W. C., aged 34, an American, married, with no children, was supervisor in a hospital for eleven years, and later proprietor of restaurant. He was admitted to the hospital in January, 1900, complaining of general weakness and inability to walk on account of stiffness and weakness in his legs.

Family History.—His father is living at 74, and in good health. His mother died at 60, of chronic blood disease; she was ill a year. The patient thought her disease was similar to his. He is the first of three children; the other two living and well. There is no nervous disease in family.

Previous History.—He had had no syphilis, and only the ordinary children's diseases, and gall-stone colic five years ago. Alcohol and tobacco had been very moderately used.

Present Illness.—He was in ordinary health to July, 1898, then weakness followed, increasing to February, 1899, when he was first confined to bed owing to rigidity in legs. A diagnosis of pernicious anemia was made by Dr. M. A. Brown, in July, 1899.

Condition.—His height was 5 feet 10½ inches, his weight, when well, 140 pounds, though he was much emaciated. He had a dark complexion, with gray hair—black a year ago—gray eyes and good teeth. His pulse was 108, of low tension, with no cardiac bruit, and no apparent arteriosclerosis. The conjunctivæ, lips and tongue were only moderately pale, not suggesting extreme anemia, there were no cranial nerve palsies nor special sense disturbance.

Motion.—His legs were rigid, but he could move all the joints voluntarily, though he could not walk on account of the weakness and rigidity. There was inco-ordination of the upper and lower extremities. He sat up some daily.

Sensation.—There was some defect of tact and pain—delay and hypoesthesia—about the ankles. The knee-jerks were plus. There was ankle-clonus and Babinski's sign present on both sides.

Fig. 1.—Cervical reg. (upper). Degeneration in lateral and posterior tracts. Vacuolisation of the white matter in the pyramidal tract.

Blood Counts.—Feb. 13, 1900, reds, 1,661,805; whites, 3,000; hemoglobin, 54 per cent.; color-index, 1.54; eosinophiles, 9 per cent.; neutrophiles, 49 per cent.; small lymphocytes, 39 per cent.; large lymphocytes, 3 per cent. Poikilocytosis was not marked and megaloblasts in all three were seen. March 20, 1900, reds, 1,183,330; whites, 2100; hemoglobin, 36 per cent.; color-index, 1.53; eosinophiles, 10 per cent.; neutrophiles, 47 per cent.; small lymphocytes, 37 per cent.; large lymphocytes, 6 per cent.; poikilocytosis; megaloblasts, 1; unnamed form of nucleated red, 1.

Subsequent Course.—There was gradually increasing weakness, with little or no mental defect, to April 10, 1900. There were mucous stools and epistaxis at intervals. For treatment he was given full diet and arsenic and iron in various forms, none seeming to improve the blood state, which steadily deteriorated. The general sense of well-being of the patient seemed improved by the diet and medicinal measures. Death, preceded by coma for twenty-four hours, occurred on April 11, 1900.

Autopsy.—There were no marked naked eye changes in the cord or brain, and the organs were generally healthy.

ABSTRACT OF REPORT ON MICROSCOPIC EXAMINATION, BY DR. WOLFSTEIN.

Macroscopically the cord showed nothing abnormal; there was no shrinkage of the posterior tracts, no distortions, nor inequalities, and no areas of softening were made out anywhere.

* Presented to the Section on Nervous and Mental Diseases, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

The areas of the crossed pyramidal and posterior zones were of a duller grey-pinkish color than the surrounding areas. The cord, after being hardened in bichromate solution, showed most marked areas of degeneration in the tracts named. The principal degenerations, on microscopic examination were seen to be in the posterior and in the lateral tracts. That in the posterior commenced as low down in the cord as the lower lumbar level, and could be traced all the way up to the level of the pyramidal

Fig. 2.—Lower cervical. Degeneration in posterior and lateral tracts, with marked vacuolisation.

decussation at least. The tracts of Goll and Burdach were involved in part, but not completely. The so-called oval field of Flechsig was free, as was also an area—wedge shaped—lying immediately posterior to the posterior commissure—the ventral field of Goll's tract. The column of Burdach was involved only in parts, and between the column and the border of the posterior cord grey, there was, in all levels, healthy nerve tissue. As said, the ascending degeneration had the usual

Fig. 3.—Upper dorsal. Degeneration in lateral and posterior tracts.

upper limits, not extending beyond the nuclei of the posterior tracts.

The *pyramidal tract* was degenerated downward from a level as high up in the medulla as that of the olives. Here there was an area, quite small, occupying a position near the periphery of the medulla, dorsal to the olive and just ventral to the corpus restiforme. Above the level of the motor decussation the degeneration was quite well marked, about midway between the nucleus of cuneatus and the olive. The degeneration was quite marked as low down in the cord as the sacral region, the ending of the pyramidal tract degeneration being lower down than the beginning of the ascending degeneration.

I have not yet been able to convince myself that there was any degeneration of Lissauer's marginal zone. In the dorsal and cervical levels the entering posterior nerve root bundles appeared slightly involved. The ganglia were unfortunately not examined. As to finer microscopic details there did not seem to be any marked vascular changes; in certain places the walls of the smaller vessels showed hyaline changes, but there was no evidence of inflammation. There were no areas of small

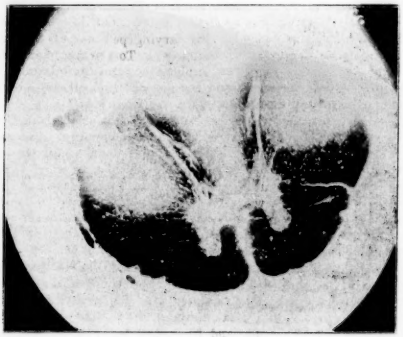

Fig. 4.—Mid-dorsal. Marked degeneration in lateral and posterior tracts.

round-celled infiltration, nor of anything that might be taken for small, multiple, hemorrhagic foci. In both posterior and pyramidal tracts there was marked glia increase. In many places nerve-fibers seemed to have fallen out so that, especially in the pyramidal tract, there was the perforated riddled appearance seen in advanced degeneration. The Marchi method showed the usual picture.

I have no theories to offer in explanation, as I would dislike to draw conclusions from one case only. I rather think, however, that the phenomena observed in this case are at variance with the view of Nonne that the degeneration is due to ascending and descending degenerations, following on multiple areas of softening of inflammatory or hemorrhagic character, which several areas become confluent and give the appearance of systemic lesions. On the contrary, from the extent and quite typical disposition of the degeneration in the areas named his view is more in consonance with that of Burr and other authors who consider the lesion as a primary systemic degeneration—primary as far as the cord is concerned, and distinctly

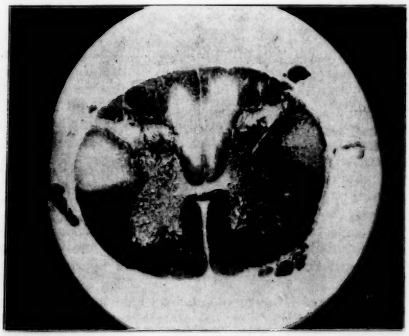

Fig. 5.—Lumbar region. Degeneration in lateral and posterior tracts.

neuronic, but secondary etiologically to some condition superinduced by the pernicious anemia. This opinion is also shared by Dr. Langdon.

DISCUSSION.

DR. W. G. SPILLER, Philadelphia—I think we should be very careful in drawing conclusions from any one case. I have examined sections from cases of severe anemia, and am at present studying a case of this character. In Dr. Wolfstein's specimen the degeneration in the lateral columns is quite clearly defined; in the posterior columns, as he has pointed out, it is less systemic. In the specimens of the case that I am at present studying the degeneration is much less systemic, and the vascular disease is very considerable, the small vessels of the spinal cord are thickened, and the degeneration of the lateral columns is more diffuse than in Dr. Wolfstein's case.

DR. KENNISTON—I would like to ask the gentleman about the Leszynsky reflex; I am studying that in epileptics. One or two are post-hemiplegic cases, and I have found the extensor reflex on the paralyzed side. Curiously enough, when that patient has a seizure, immediately thereafter the extensor reflex is present on the paralyzed side, and the flexor response on the other, and an hour afterward there will be a flexor response on the paralyzed side and perhaps a response on the other side.

DR. HUGH T. PATRICK, Chicago—I should like to ask Dr. Wolfstein whether he does not think that some of the structural changes described in this case were due to artifacts. It seems to me, from the naked eye appearances, that some of the specimens certainly show signs of postmortem injury.

DR. D. I. WOLFSTEIN—I am very glad to learn that Dr. Spiller agrees partially with me as to the result of the study of this case, and I shall study it more carefully. As to the Leszynsky reflex, I suppose it is present in these cases on account of the involvement of the pyramidal tract. With regard to the question of artifacts, I agree with the chairman, as some of these changes were probably due to postmortem injury.

CROUPOUS PNEUMONIA.*

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The old masters of our profession had very imperfect ideas of etiology, therefore taught faulty therapeutics. They thought croupous pneumonia to be the result of fluctionary changes in the blood brought about by cold, etc. They had an incorrect idea of the character of the cause of the first step in the process of inflammation, tnat is, irritation caused by bacteria. They recognized the buffy coat of the blood and the rapid increase of fibrin in pneumonia, their essentials in the inflammatory process.

The correction of this condition was to be accomplished by rapid depletion; hence blood-letting one or more times until the radial artery ceased to be strong and corded.

Next followed the revulsion by what they termed an emeto-cathartic composed of 10 grs. hydrargyri chloridum mite, 10 grs. pulvis jalapæ, and 2 or 3 grs. of antimonii et potassii tartras. From the beginning of the attack the patient was kept nauseated with frequent doses of tartar emetic.

In the latter part of the second and the beginning of the third stage they gave either calomel or hydrargyrum pill combined with small doses of opium and pushed to full ptyalism, the object of which being to defibrinate the blood and arouse the secretions.

Their expectorants were squills, tinct. senegæ, lobelia and ipecac. If the case occurred in a malarious district 20 to 25 grs. of quinin were given daily or an equivalent of pulvis cinchonæ; this indeed was the only scientific remedy that was used. In the 60's the quinin was reduced in quantity and given in 2-grain doses frequently repeated as a stimulant to the vasomotor system. Alcohol and other stimulants were forbidden until the heart's action became rapid and weak. A few physicians ventured to give digitalis in the third stage, but many condemned it as highly injurious.

One of the so-called sheet-anchors was extensive blisters applied over the affected lung, which were kept irritated and discharging during the course of the disease. As a matter of course, we know now this was adding fuel to the flame. Later, blisters were not applied until the latter part of the third stage, when crepitant redux could be heard. It was claimed for the blisters so applied that they called forth the reserve force of the individual and hastened resolution. This change occurred in the latter part of the 50's and the beginning of the 60's, after which instead of blisters in the first stage, there was substituted counter-irritation by scarification and cupping over the affected lung. This was a vicious and cruel process; the click of the scarificator grates on my ears even to-day.

In the middle or latter 60's the scarificator and blister gave way to counter-irritation—mustard sinapisms, turpentine stupes, and painting the chest with tincture of iodin. Later these were followed by emollient poultices.

About 1858 Dr. Austin Flint struck the death-blow to blood-letting, by his experiment in treating 25 cases of pneumonia with good diet, tonics and iodins, greatly reducing the death-rate. This is not all the advantage that was gained by this distinguished American physician, and while it added nothing to our knowledge of the etiology of the disease, it thoroughly revolutionized the treatment, destroyed the theory of depletion, ptyalism, blisters, etc.

This caused the physicians to look about for more rational therapeutics. Mercury was used only in small doses, guarding carefully not to ptyalize; purgatives were abandoned for mild laxatives, antimonii et potassii tartras was abandoned and a substitute found in Norwood's veratrum viride, which is a reliable heart depressant, diaphoretic and sedative to the nervous system, its action in slowing the heart, quieting the nervous system and producing diaphoresis was so efficient and prompt that the physicians were ready to cry out, Eureka! It is now demonstrated that it is in no sense curative.

The carbonate of ammonium, because of its so-called power of liquefying the blood and as a heart stimulant, was believed to be curative. That it is a quick transient heart-stimulant is true, but it is in no sense curative. A large number of other remedies have been tried and found wanting; therefore it is not necessary to name them.

When the early physician used potassium nitrate it was because of the supposed antiphlogistic effect.

Hydrotherapy, by either warm or cold baths, has had many advocates; the first could only be beneficial by calming the nervous system, the latter by lessening the temperature, neither of which could be considered as curative. The German cold chest-pack might be beneficial in two ways: 1, reducing the temperature; 2, increasing the blood in the lung, thereby increasing phagocytosis.

The only remedies which we bring over from the past —except digitalis—are those which are more or less germicidal, as mercury, potassium nitrate, quinin and

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alcohol, the last of which is of doubtful utility, possibly injurious, and not needed now, because we have better remedies for the same purpose in digitalis, strophanthus, nitroglycerin and strychnin.

The first theory in the right direction as to the etiology of pneumonia was promulgated by Dr. Francis M. Johnson, of Kansas City, Mo., who read a paper before the Kansas City District Medical Society in 1875, in which he claimed that pneumonia should be taken from the list of inflammatory diseases and placed in that of essential fevers. At this time the germ theory of disease was beginning to impress the medical minds of the country, which theory I accepted in connection with Dr. Johnson's theory of pneumonia, and modified my previous treatment accordingly, by giving at the beginning a calomel and rhubarb purge, except in cases where there was jaundice caused by acute duodenitis, misnamed bilious pneumonia.

The other remedies which I used in the various combinations adapted as I thought to the conditions, potassium nitrate, potassium bromid, ipecacuanha, minute doses of calomel, Dover's powder as an anodyne and diaphoretic, the terebinthinates, cold sponging, and emollient poultices to the chest.

In the second stage I begin the use of digitalis and strychnin in small doses, increasing the dose to meet emergencies, rarely using alcohol.

While Dr. Johnson's theory is not widely known, it marked a decided change in the treatment of pneumonia in that vicinity.

When Fränkel and others discovered that the diplococcus was always present in pneumonia, and which excited the initial irritation, this established the etiology, and that it was infectious. True streptococci and staphylococci are almost always present in the second stage, as a result of structural changes caused by the diplococci. This marked another epoch in the therapy of this disease as I think based on incontestible facts.

I then adjusted my treatment to this known etiological factor and its associated complication of streptococci and staphylococci, using only germicidal remedies of creosote, eucalyptol, guaiacol, mercury, combined often with the terebinthinates and balsam of copaiba.

In the first and second stages, long before this time, it had been recognized that the most frequent cause of death in pneumonia was edema of the lung, caused by weakened heart action, particularly the right side, and paralysis of the vasomotor nervous system. To meet this indication, I began the use, in the second stage, of digitalis, strophanthus and strychnin, later nitroglycerin, if needed, abandoning entirely alcoholic stimulants.

I also used in the first stage, inhalation of the tincture of iodin, and menthol, because of their germicidal effect, and ceased using all counter-irratation as illogical, as it lessened the amount of blood sent to the lung, thereby lessening the possibilities of phagocytosis.

About 1885 I ceased the germicides mentioned, and began salicylic acid in full doses every three or four hours. Now I use the sodium salicylate, 10 to 15 grains, every three or four hours. I continue this until the fifth or sixth day, when I cease it, unless new structure is being attacked, because it is fairly well demonstrated that the entity upon which the germ subsists is destroyed by this time and the germ dies, leaving only the pathological results to deal with.

The effects of sodium salicylate are germicidal from its start in the mouth until its elimination by the kidneys and mucous membranes. That it rapidly enters the blood is evinced by the fact that in a very few minutes it can be detected in the saliva and secretion of urine. Benz and others claim that when the salicylate of soda comes in contact with the carbonic acid of the blood it is converted into salicylic acid again, thereby increasing its germicidal effect.

When there are indications of the presence of streptococci and staphylococci in large quantities, I have used the antistreptococcic serum with positive results. To relieve shock, control pain and produce diaphoresis, I give three doses of 5 to 7 grains of pulvis Doveri during the exacerbation of fever.

To summarize the therapy of pneumonia: I administer a calomel and rhubarb purge at the beginning; afterward the alimentary canal is to be kept open with castor-oil and turpentine. Three hours after the purgative I begin with the sodium salicylate, 10 to 15 grains, given in 4 drams of Phillip's milk of magnesia. During the exacerbation of fever I give the pulvis Doveri as above mentioned. The digitalis, strophanthus and strychnin are given in the middle of the second stage in small doses, increasing as the heart may demand. About the fourth to sixth day I cease giving the sodium salicylate and substitute for it tincture of ferrum chlorid, potassium iodid, quinin, nitroglycerin; as a matter of course, the heart tonics and stimulants must be continued in full force. During the last two years I have been using with great benefit oxygen inhalations.

The patient's diet should not be restricted, unless he be jaundiced by acute duodenitis, which is often associated with croupous pneumonia; then the diet should be restricted to milk and eggs.

DISCUSSION.

DR. WARREN B. HILL, Milwaukee, Wis., said that we have not yet arrived at any logical method of treating this condition of acute pneumonia. It is true that we know the nature and the etiology of the disease, for he assumed that the germ had been isolated, but in his opinion the disease is one of mixed infection. We have the diplococcus, staphylococcus and streptococcus, often associated with the very important germ of influenza, which modify the clinical aspect of the disease. As the result, we have not been able as yet to master the disease through the use of serums. Perhaps more has been done in this direction than he suspected, but his own experience had been such as would bear him out in making this statement. We can not attack the germ without doing injury to the rest of the body. He wished to direct attention to the fact that the discomfort and danger to the patient come almost entirely from two sources: 1, weakness of the heart, the cavities becoming too full of blood; 2, the circulation in the lung is checked and the blood lacks oxidation. The discomfort, the bad symptoms and death are usually due to these two causes.

In our treatment we aim to support the vital power and keep the patient comfortable and keep up the circulation. The pain is relieved by applications to the chest. He does not believe in the cold pack, except in the early, acute condition. When stasis has already taken place he would employ measures to dilate the vessels and make the flow of blood more easy through the lung. He would not agree with the lecturer who said that he wanted to put more blood into the lung; there is too much in it already. He would use digitalis for the purpose of toning up the walls of the blood-vessels to permit the flow of blood through the affected part. We should not neglect to make applications to the lungs; it does not make very much difference whether you put on a poultice or cotton, if you use some application which will relieve pain, keep up the circulation on the surface and maintain an even temperature. Again, as to the balsam of copaiba and other irritating drugs, recommended for their action on the lungs, it is a question whether we should not do harm instead of good from the amount of irritation in the lung by the use of this class of agents in pneumonia.

DR. J. TRACY MELVIN, Saguache, Colo., said that this subject of the treatment of pneumonia is the most disputed one in pathology. Some eminent physicians say: "Do nothing to the patient, it is a self-limited disease and patients will get along without drugs." Others say that if they know anything

at all about it, drugs do good to patients with pneumonia. The paper has shown the results of the experience of the writer in support of the value of drugs in the treatment of pneumonia. The remarks of the last speaker show that while pneumonia is undoubtedly due to the diplococcus, yet many cases are the result of mixed infection. It is impossible, therefore, to lay down any hard and fast rules for the treatment of cases of acute pneumonia, yet there are several principles which can be followed by the practitioner and will aid him in the treatment of these cases. In the portion of the country to which the speaker belongs, pneumonia produces the most numerous fatalities; the number of cases treated each year is very large. The experience he has had in his last 200 cases of croupous pneumonia has led him to be positive—if he could be positive about anything—that the condition can be relieved by blood-letting. There are two conditions to be overcome: 1, the condition of the blood, and 2, the weakness of the heart which follows. Either you must relieve the stasis in the blood-vessels or increase the power behind to force the blood through the constricted blood-vessels. Among many practitioners veratrum viride has been lauded as almost a specific in the treatment of the first stage of pneumonia. Others rely on aconite for its dilating action on the blood-vessels, thus relieving the strain on the heart. He has abundant testimony that by the use of veratrum viride the course of the disease is cut short and the case convalesces two days earlier, and the whole course is milder than where this is not given. His own preference, however, is for aconite, which acts in the same manner. By following out this treatment he has seldom had a case last longer than five days before the crisis occurred. The next point in the therapy is to strengthen the heart so that, after the action of the veratrum viride or aconite has overcome the constriction of the vessels, the blood may be forced through them. Digitalis and especially digitoxin have been recommended for their physiologic action on the heart, but in strychnin we have a remedy, which is most useful in this condition. If there is any disease in the world in which we can recognize the efficacy of blood therapeutics, it is in acute pneumonia. In some parts of the country the mortality reported from hospitals is 25 per cent. In his portion of the country, if he did have any mortality at all, he would lose his practice, as the people expect pneumonia cases to get well if they receive proper attention.

DR. BOYCE—An important question in connection with the subject under discussion is the value of serumtherapy. To the speaker acute pneumonia is the type of a toxic disease. It has its nearest analogue among infectious diseases in diphtheria. The diplococcus of pneumonia and the bacillus diphtheriæ, or Klebs-Loeffler bacillus, are the sole micro-organisms which cause fibrous exudation upon mucous membranes. The clinical type of pneumonia depends entirely on the virulence of the bacillus and absorption of toxins. The clinical course of the disease is evidence of this. You may see your patient on the sixth day and he is a sick man; apparently he is still as sick as on any day previous; he has an exudate in the lung that is the same as the previous day, and suffers from fever and other evidences of this disease, but you go back again on the same afternoon and find the patient a well man; the oppression is gone, the fever has gone and he feels well, and you can see that he is relieved, but the exudate has not changed. No diagnostician can show any change in the exudate, but there is no dyspnea and the patient feels well and is hungry. The change that has taken place in the symptoms is very evident, but it has not been due to any change in the condition of the lung. On the other hand, we will have very great damage to the lung without the symptoms of the kind we see in pneumonia. For instance, we may have one of those large pleural exudates which come upon us and force the lung and heart to one side and leave only a portion of one lung for the patient to breathe with, and yet the patient will not have the dyspnea that he has in pneumonia. Therefore, the condition is not mechanical, but is due to the presence of certain toxins in the blood. Therefore, the best thing we can do for pneumonia patients is to dilute the toxinemic condition of the blood by saline injections, using the normal salt solution for this purpose; also local applications to the chest, ice-bags or hot poultices, the object being to relieve the nerves and to relieve pain, and give symptomatic relief, and by this means we do give relief to the symptoms. The treatment of serumtherapy is possible. As to the administration of veratrum viride, we know that the exudate can not be absorbed by this agent. I have seen cases of acute pneumonia in which the physical signs all disappeared in one day, and this occurred just as often in those who had taken veratrum viride as in those who had not. As regards the comparison instituted by Dr. Melvin between cases treated by blood-letting and those who are not, taking the violence of the attack into consideration and the difference between the patients treated in private practice and those in the hospital, 25 per cent. mortality is practically correct. He knew of a hospital which for a few years had lost over 40 per cent. in acute pneumonia, simply owing to the character of the clinical material. He thought that 25 per cent. in hospital practice corresponded to a mortality of 10 per cent. in private practice.

DR. E. W. MITCHELL, Cincinnati, Ohio, fully believes in toxins from the pneumococcus. From his observation of the disease in the hospital he has come to hold the view that acute pneumonia is an infection and not an inflammation; that the essential factor in the pathology is not the mechanical one, but the toxin effects. We hope for the development of a better treatment with the aid of antitoxin. If the analogy is so close between diphtheria and pneumonia we should hope before long to have the antitoxin which shall be as efficacious as the diphtheria antitoxin. The comparison has already been made between the class of patients which come into the public hospitals, the old drunkards, with liver and kidneys in a degenerate condition, the heart fatty, and whom no drugs will be able to save, and private patients. It is remarkable that death statistics do not show much difference between the death-rate of pneumonia—which had a death-rate of 40 per cent. fifty years ago—and that of the present day with all the advances of modern therapeutics. About our only hope in therapeutics, therefore, appears to be in the serum treatment. According to the last speaker, the normal salt solution is of value in acute pneumonia, and this seems reasonable. The speaker has not much faith in any form of local application, but his own preference has been for the hot bath, and internally he uses digitalin and strychnin. He is not sure, however, that he has obtained as favorable results as Dr. Eichberg claimed in his paper. Our resident physicians in the hospital are acute observers. A few days ago, at his hospital, the residents reported that they had noticed that all the cases treated by the hot bath had died, while those who did not have the baths got well. In private practice he has obtained the most satisfactory results from the hot bath. He has also had very good results from the use of oxygen in pneumonia. He regards it as a valuable heart stimulant. The most valuable part of the treatment is fresh air, and he said that he would take out the side of the house or drag the patient's bed into the open air if possible or necessary.

IRRIGATION OF THE COLON AS A THERAPEUTIC MEASURE.*

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The introduction of water into the bowel per anum is made by injection and irrigation. In the former, only a small amount of fluid is required; in the latter, the quantity is indefinite, as it is immediately allowed to again leave the system. The fluid acts in part mechanically as a foreign substance, provokes expulsion movements, as a solvent for intestinal catarrhal products, and, where large quantities are used, drags upon the upper intestinal coils, causing thermal changes and peristalsis.

These large quantities are introduced by means of the rectal tube, made of soft rubber, preferably with the opening at the end, to prevent clogging by fecal masses, as often occurs where the tube opens on the side. An ordinary fountain syringe is attached to the tube and the flow and pressure of the fluid is readily controlled by constricting the tubing. It sometimes happens that the tube coils upon itself when it enters the sigmoid flexure and the liquid is prevented from passing farther into the bowel. Turck,[1] of Chicago, has devised a special form of tube to obviate this. From two to four quarts of water are required, the temperature of which varies according to the nature of the case in hand.

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As these irrigations act mechanically in that the weight of the fluid draws upon the upper portion of the intestines, they are often of great value to relieve constrictions and incarcerated hernia, to remove fecal matter, mucus and epithelial remnants in chronic enteric catarrh, in dysentery, and in oxyuria, in fact, in all conditions where the system has been depleted or become vitiated by toxic autoinfection, such as hemorrhage, cholera, yellow fever, diabetes, uremia, shock, collapse, etc. In these cases the normal saline solution has been given with the best results, as seen by the improvement in the circulation, the re-establishment of the normal temperature of the body and the stimulating effect upon the nervous system.

Irrigation of the colon has been followed by immediate amelioration of the serious symptoms of the initial stages of appendicitis, and Love[2] reports several cases in which enemata of one-half gallon of water at 100 F., mixed with soap, were given high up, producing peristalsis and flushing out the irritating matters of undigested food, ptomains, etc.

Shuell[3] recommends the same treatment in typhoid fever, "to remove at as early date as possible all ptomains and decomposing substances from the colon." The fluid may be readily made to pass the sigmoid flexure and reach to, or near, the cecum. The injection will distend the bowel and remove the accretions from the sacculi. He also cautions against its use during the stage of necrosis of the glandular tissue, as the solitary glands of the large intestine are affected in a large proportion of cases.

Hensell[4] speaks of the value of colonic irrigations of one-half to one liter, twice a day, reaching up to the ileum, so that their effects are also directly upon the gall-bladder and liver; and Löwenthal[5] reports forty-one cases of catarrhal jaundice cured by this method. These cases were of the type of gastroduodenal catarrh, with symptoms of anorexia, pressure in the gastric and hepatic regions, constipation and great prostration.

AUTHOR'S CASES.

CASE 1.—Typhoid fever; female, aged 20 years. When first seen, on the eleventh day of the disease, she presented every characteristic symptom, except the diazo-reaction, which was absent throughout. From the fourteenth to the twenty-fifth day her evening temperature ranged from 103 to 105 F., which was promptly reduced to 100 by cold spongings. On the evening of the sixteenth day she had a profuse hemorrhage from the bowels, and on the day following several smaller ones. Severe tympanites developed. At this stage irrigation of one-half gallon of water at 40 F., mixed with soap-suds and one-half ounce of turpentine, was resorted to, and after this was evacuated, one pint of normal salt solution was injected and allowed to remain. The ice pack was applied to the abdomen. After each irrigation marked improvement took place. The temperature fell several degrees, the pulse, which was from 140 to 150, and dicrotic, became strong, regular and reduced to 120 to 125 per minute, the nervousness abated, tremor and subsultus tendinum subsided. This treatment was continued until the twenty-fifth day, when defervescence set in and the patient progressed to complete recovery.

CASE 2.—Appendicitis; male, aged 45 years. Patient had just arrived from New York City, where he had a similar attack, which kept him in bed for five days. Having recovered, he attended to his business affairs and then started back to this city, but was seized on the train. When seen he was suffering very acutely, knees drawn up, anxious countenance, clammy sweat, temperature 100 F., pulse 90, exquisite tenderness over McBurney's point and continuous vomiting. Several small doses—¼ grain—of calomel were given, followed by a Seidlitz powder, ice to abdomen and high irrigation of the bowel with one-half gallon of water and soap at 40 F. After the intestinal tract was thoroughly cleared out by two more similar injections, at intervals of twelve hours each, the pain ceased, temperature and pulse became normal, and all further symptoms disappeared. The patient was under observation for three months after the attack and has since been in perfect health.

CASE 3.—Appendicitis; male, aged 40 years. Was suddenly taken with violent pain in abdomen, especially pronounced over McBurney's point. Temperature 99.8 F., pulse 90. He presented all the symptoms of Case 2, but was seen several hours earlier in the attack. The same treatment was given and he recovered completely, and has been well since.

In each of the above cases surgical interference was considered; in the first case for impending perforation, in the latter, for the most opportune time to operate, but each improved at the most critical stage, which can only be attributed to the free irrigation of the colon.

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DISCUSSION.

DR. DANIEL R. BROWER, Chicago, said that too little attention has been given by the profession to colonic flushing. He, personally, very much prefers the normal saline solution to soap and water, or anything else which has been proposed for this purpose. The solution should be about the temperature of the intestinal tract. Not only does this flushing have a very great effect on the contents of the colon, but there is also a very prompt and remarkably active effect on the renal organs. In cases where the kidneys are deficient, as in certain infectious diseases, a large amount of saline solution thrown into the bowels will very speedily set up action of the kidneys. It is diuretic as well as antiseptic in its relation to the colon, and this feature is often overlooked. He is quite sure that this therapeutic measure is not resorted to as often as it should be.

DR. O. T. OSBORNE, New Haven, Conn., approved of the recommendation of colonic flushing and said that it is not resorted to as often as it should be by surgeons after operations. Some make it a routine practice to inject 1 to 2 quarts of saline solution, but many others do not. The condition of surgical shock is due to paralysis of the vasomotor system, and in that condition the heart gets very weak, because the ventricles are not properly filled. The moment the blood-tension goes down, that moment the heart is impaired in its action. Flushing the colon fills the blood-vessels at a time when we know it will take several hours before anything can be absorbed from the stomach owing to nausea and vomiting, also during this period very concentrated urine is passed. This condition threatens kidney congestion and will be overcome by colonic flushing with normal salt solution.

DR. J. C. CULBERTSON, Cincinnati, Ohio, said that as a means of reducing temperature, flushing of the colon with cold water, in infectious diseases, is one of our best remedial expedients. A quart of ordinary ice water will reduce the temperature 1.5 degrees in a case of fever—say 103 F.—if thrown into the rectum and retained there, and it can be repeated as often as thought necessary. It is a very valuable resource, it can do no possible harm and is a source of comfort to the patient.

DR. M. BERNHEIM, Philadelphia, said that in the paper read yesterday he had shown, by physiologic experiment, that following an injection of the salt solution there is an antiperistaltic action set up which carries the solution up into the higher part of the small intestine and also into the stomach. Therefore the beneficial action of the large injections of saline solution is more easily understood, as the surface for absorption becomes larger.

DR. G. J. LOCHBOEHLER said that as regards temperature the use of ice water is often very beneficial, but in both of these cases he has used the injection at 40 F. which is sufficient to reduce temperature. He wished to call attention to the fact that the injection of ice water in the case of hemorrhage reported, with a temperature of 105 F., and about to die, was done as the best method of causing reaction, and he firmly believes that the patient was saved by checking the hemorrhage by the stimulating effect of the injection of cold water. But, as he already mentioned, the saline solution given at the body temperature will aid in a great many cases in aborting infection and infectious disease.

A PROTEST AGAINST THE USE OF PROPRIETARY REMEDIES.*

DANIEL R. BROWER, A.M., M.D., LL.D.

CHICAGO.

The profession is being overwhelmed by proprietary remedies. The manufacturers who project them copyright the name by which they are to be known, patent the process by which they are made, and patent the resulting product, so that these remedies must remain a monopoly for all time. Coblentz, in his recent edition of "Newer Remedies," gives a succinct account of about two thousand, all introduced during the last few years, and Lehn and Fink, in "Progress in Pharmacy and Therapeutics," enumerate about five hundred more.

I have recently had three of the leading dispensing druggists of Chicago, Messrs. Gale & Blocki, Dale & Sempill, and D. R. Dyche & Co., examine the last 1000 prescriptions on their files for the purpose of ascertaining how many of them contained these proprietary remedies, with the result that one firm finds about 20 per cent., another 21 per cent., and the third 26 per cent.

The most of these products are made in German color factories, as by-products; they are covered with this triple system of patents, and sold at an enormous profit in this country—I am told three or four times the price charged elsewhere. The therapeutic use of most of them is based on *ex parte* evidence; they are presented to us by expert promoters, with an abundance of literature, in which the effort is made to demonstrate that they are a positive cure for this or for that. The enormous production of these articles, and their extensive consumption, show a deplorable state of therapeutic morals, and the time has come, in my opinion, to protest against them.

These enterprising manufacturers and their accomplished agents, of course, have no use for the Code of Ethics and the traditions of the profession from the time of Hippocrates until to-day.

The Code of Ethics, Section 5, reads as follows:

SECTION 5.—Equally derogatory to professional character is it for a physician to hold a patent for any surgical instrument or medicine, or to dispense a secret *nostrum*, whether it be the composition or exclusive property of himself or others. For, if such a nostrum be of real efficacy, any concealment regarding it is inconsistent with beneficence and professional liberality; and if mystery alone give it value and importance, such craft implies either disgraceful ignorance or fraudulent avarice. It is also reprehensible for physicians to give certificates attesting the efficacy of patent or secret medicines, or in any way to promote the use of them.

Notwithstanding the objections of these people and some of the profession, it must be that the great majority of our craft are in full and unreserved sympathy with these declarations of the Code, and therefore unite with me in this protest, and beg a cessation of this wholesale use of these drugs that are so expensive to our clients, and have not been subjected to sufficient clinical observation or pharmacological experimentation as to justify their scientific use.

Even if the remedies may have been determined to be meritorious by exhaustive scientific examinations, so long as the name is copyrighted, the process of manufacture patented, and the resulting product patented, we are perpetually at the mercy of monopolists who may fix the price and vary the composition or purity as fancy may dictate.

I see no objection on the part of a manufacturing chemist patenting a process. This is probably his right, and at best is but a limited affair, but when you add the other attachments you perpetuate it as a monopoly, to the great injury of scientific medicine, and to the detriment of our clients.

In the name of scientific pharmacy and rational therapeutics, I most earnestly protest against the present tendencies. We certainly have in our armamentarium enough well-tried remedies that have been subjected to thoroughly unbiased and carefully conducted physiological tests, and have had the ordeal of scientific clinical application, to enable us to fulfill the mission intrusted to us.

The national formulary has been of much aid to us; instead of prescribing "bromidia," we can at one-third the expense order liquor chloralis et potassii bromidi compositus; instead of "arsenauro," we can prescribe liquor auri et arsenii bromidi, and instead of antikamnia we can order pulvis acetanilidi compositus, and so with numerous other of these proprietary articles.

In conclusion, may I express the hope that this Section of the ASSOCIATION may call its members back to a more conservative prescribing, and issue its protest against the impetuous rushing after new and untried remedies. And, furthermore, that this great ASSOCIATION may use its mighty power to have our patent laws so modified that the present system of triple patenting of products made for the healing of the people may no longer be possible.

DISCUSSION.

DR. N. S. DAVIS, JR., Chicago, said that the lecturer had brought before the Section a subject which was of great interest, but especially so at the present time, because the Pharmacopeia is now in the hands of the revision committee. Two classes of proprietary remedies have been mentioned: 1, those combinations of drugs which are put on the market by their proprietors by skilful advertising, and 2, all those definite chemical products whose mode of manufacture is patented. As medical men, we must necessarily object to the patenting of articles which must be used for the benefit of the sick. At the present time many medicines are furnished to the medical profession which are not mixtures, but definite chemical compounds made by patented chemical processes. They are articles which the pharmacist could not duplicate were he called on to do so. These preparations are extensively used. Many of them have valuable medicinal properties. They will not be discarded by the profession because they have such properties. He would, however, discourage the use of mixtures, pills and tablets which are ready-made. We should adapt our prescription to the needs of the individual case, and this can not be done if we use ready-made mixtures or pills. He therefore agreed with the lecturer in his opposition to such protected pharmaceutical compounds, but, at the same time, he thought that we must continue to use some things which are covered by patent.

DR. J. M. ALLEN, Liberty, Mo., said that the paper of Dr. Brower directed attention very pointedly to one fact, viz., that the use of this class of remedies is becoming very general all over the country. The effects of the use of ready-made pharmaceutical compounds by physicians would be: 1, to lessen their study of materia medica and pharmacy; 2, to lead in the direction of routinism, thereby arresting growth and investigation. He had never used a formula in his life and always advises his students never to use them, but to study carefully materia medica and pharmacy, then formulate their prescriptions as a force to combat the etiologic and pathologic forces of disease. If the physician will do this, he can have his prescriptions filled as accurately and elegantly in almost every little town in the country, as the so-called manufacturer of drugs can do it. He does not believe that it is wise or beneficial to the physician to dispense his own drugs. His time is too valuable. Besides, the pharmacists of the country are now educated gentlemen. He should send his prescription to a druggist as a distinct department in the practice of medicine. The physician should place himself in close communication with a pharmacist so that they will be of mutual

* Presented to the Section on Materia Medica, Pharmacy and Therapeutics, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

assistance to each other. He has derived great benefit from this close relation, always finding them ready to render any assistance asked.

DR. A. BERNHEIM, Philadelphia, said that he had no connection with any manufacturing pharmaceutical business. He merely spoke to correct the statement that the cost of many medicines is much greater in this country than in Europe. For instance, antipyrin costs 5 to 6 marks per ounce in Germany, which is more than it sells for in this country. Moreover, these products are not recommended indiscriminately for everything, but they are carefully tested by clinicians, the most celebrated doctors in Germany, and only if they have been found to be very good are they put on the market. Of antipyrin he has frequently given and himself taken thirty grains, but he would not take ten grains of acetanilid. Of the names mentioned by the reader of the paper, antipyrin is also known as phenazon, an abbreviation of phenyldimethyl-pyrazolon, tannoform is only improved tannin preparation. We should not condemn patented articles as a class. The term "patent" comes from the Latin word which means "open," it is not concealed. It is very different with the class of pharmaceuticals of unknown composition where you never know what is in the compound, or what it will do. He personally had never prescribed any compressed tablet or proprietary secret medicine.

DR. A. B. LYONS, Detroit, Mich., agreed with all that he had heard of the paper. In regard to pharmaceutical compounds and patented drugs, he said that there is no unmixed evil in the world, and in attempting to eradicate some evil we should be careful that we do not take away something good with it. This is exemplified in the subject discussed in the paper. We associate the name of patent with things which should not be patented, and could not be. If an article had no novelty it could not be patented. He is heartily in favor of patenting preparations or discoveries by scientific men, if they could be, because the knowledge would thus be given to the world and it would increase the resources of science. He is, on the contrary, opposed to proprietary pharmaceutical compounds. If a man puts together two or three articles well known to the profession, on what ground can he claim the exclusive right to manufacture the combination? "None genuine without Smith's signature" means quackery every time in pharmacy. He was very much pleased with the remarks of Dr. Allen about students and the relation of pharmacists to the medical profession, and the overwhelming of the profession by commercialism. There are two classes of men who are now especially interested in selling medicines; the question is which class will physicians encourage, those who offer only a few remedies which they alone can supply, or those who aim to carry out the personal wishes of the physician in the preparations prescribed and deal in all medicines, and who seek to preserve the pharmaceutical profession.

DR. G. J. LOCHBOEHLER, Washington, D. C., said that we ought not to use prepared remedies, for in a great many cases they are not what they claim to be. Take, for instance, the emulsion of cod-liver oil. Professor Wiley, two years ago, analyzed all the emulsions in the market. Most of these are claimed to contain 50 per cent. of oil. Dr. Wiley found that, of all the samples, only three contained 50 per cent., most of them containing only 15 per cent., some only 3 per cent., and several none at all. There is a firm that puts up a preparation of cod-liver oil whose agent tells you that it contains everything that cod-liver oil should possess except the fat. It is free from the taste of cod-liver oil because it has *no cod-liver oil* in it. The taste of cod-liver oil can not be eliminated. But why use it? Why not use butter, cream and the fats of the daily food? Why not use the well-known remedies of the pharmacopeia instead of prescribing new, and possibly dangerous, compounds? A child went into a drug store and complained of headache; the druggist gave her five grains of antipyrin and she died in ten minutes. The coroner decided that the child died with cerebrospinal meningitis.

DR. TOMPKINS condemned the presumption of faith-curists and the practice of medicine by so-called ministers, who assume to know more about medicine than physicians. He mentioned a case of a young woman dying of consumption, who was taken out of the hands of the doctors by a bishop, but she died just the same.

DR. FRANK WOODBURY, Philadelphia, suggested that the manufacturing pharmacists of the present day are better business men than those of the early part of the century, and that if quinin, morphin and strychnin and similar indispensable drugs had not been discovered until the present time they would undoubtedly be patented, so that we must expect that hereafter all new drugs would be introduced in this shape. The fact that a drug is manufactured according to a protected process, therefore, should not prevent its use. He would, however, urge that the well-known drugs should not be hastily laid aside in favor of new and expensive substitutes. Too great eagerness for new and comparatively untried drugs inspires mistrust on the part of the patient, and may engender a suspicion that he is being used for experiment. There is no doubt that the taking up of new remedies is often due to ignorance of the value of the old ones.

DR. LYONS said that each particular subject must be studied on its merits and by some competent authority. Reliable evidence is needed as to what each special article will do. It is necessary that some board be constituted which shall exercise a censorship over this whole class of remedies, and this board should have behind it the authority of the AMERICAN MEDICAL ASSOCIATION.

DR. D. R. BROWER said that a very pleasant gentleman came to his office recently and showed him a pharmaceutical compound and told him what it would do. From his office the gentleman evidently visited other physicians in the same building that afternoon. On the next day the speaker entered the drug store in the same building and inquired whether there had been any prescriptions for this compound, and found that six had prescribed it within twenty-four hours after the promoter had visited them, and perhaps there were more prescriptions taken to other drug stores. This is a great evil. The same compound is also sold directly to the public; its uses are printed on the label where the public can see it. So that prescribing such remedies encourages counter prescribing and self-treatment. With regard to antipyrin, it may be cheaper here than in Europe, but he doubted it. He knew that people living in Detroit have gone across to Canada to get their prescriptions for antipyrin filled because it is much cheaper there. These new remedies are being constantly forced upon the profession: there have been some 2500 brought out within recent years. The question is, what shall we do in the matter? It is a very important question for the profession to answer.

CULTIVATION OF THE ESTIVO-AUTUMNAL MALARIAL PARASITE IN THE MOSQUITO —ANOPHELES QUADRIMACULATA.*

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PHILADELPHIA.

To determine this question my observations were carried on through the past winter and summer, the latter of which has been the warmest for thirty years. Previous to June, 1900, I had not discovered any specimens of anopheles here or in New Jersey, and but one specimen had been sent to me from Texas. In the previous fall I had treated a case of malarial fever in whose blood both crescents and ovoid bodies were found, which undoubtedly originated in Philadelphia,[1] and it was near this locality that my first efforts were made to capture adult anopheles or their larvæ. Periodic trips were made to this section during many weeks without avail, and I brought back only the larvæ of culex, chironomus and various other unknown larvæ.

About three-fourths of a mile distant from the house in which the case of fever had been treated, and near the League Island Navy Yard, on June 19, 1900, I managed to catch a small dark-brown or black and striped mosquito larva which agreed tolerably well with the description of Ross, in that "it lay upon the surface of the water like a stick and when disturbed would move off with a backward skating motion." Howard had subsequently[2] described the larvæ of anopheles as being "darker" than culex. Placing these larvæ, together with a small amount of algæ or green moss, in a glass jar, I succeeded in raising several to adult insects, which proved to be specimens of both anopheles quadrimaculata and anopheles punctipennis. Both of these species had therefore been caught in the same narrow and slowly flowing stream of fresh water which drained a marshy district formed by a railroad embankment.

* A paper read and specimen presented—by invitation—before the College of Physicians of Philadelphia, Dec. 5, 1900.

After this I made periodic visits to this section from June 19 till Nov. 11, 1900, and never failed to catch anopheles larvæ, except on the last trip, when they had disappeared, probably on account of the cold weather. In this way I have raised upward of 200 adult anopheles from the larvæ, some of which have been kept as long as twenty-seven days.

Subsequently, making journeys to regions where cases of malarial fever had developed, I discovered that anopheles could nearly always (all but one) be found in or near the infected houses. In this way I have been able to locate five localities within the city limits of Philadelphia where anopheles have their breeding-grounds.

This, in a measure, confirms the observations of others that "where there is malarial fever, there are mosquitoes." But it does not necessarily follow that where there are mosquitoes there are cases of malarial fever. Anopheles will always remain uninfected unless some vertebrate animal suffering with the disease comes among them. I have been informed that no autochthonous case of malarial fever has developed at the League Island Navy Yard for years, though there is a breeding-ground of the anopheles near by. On Sept. 10, 1900, I caught some larvæ of anopheles in a clear pool of water in the Pocono Mountains of Pennsylvania, a notable health resort, and at an elevation of nearly 3000 feet above sea level. The adult insects in this region are doubtless not infected, simply because no case of malarial fever has been brought near them. Five miles north of this locality—Tobyhanna—malarial fever has been found and another breeding-ground may be expected to be found there.

The malarial parasite of man may be classified into a natural order (Gymnosporidia), a class (Sporozoa), into different genera (Hæmamœba and Laverania), into different species (hæmamœba malariæ, quartan; hæmamœba vivax, tertian, and hæmomenas præcox, remittent fever—Ross); and it has been further proved that the flagellated malarial parasites are of different sexes.

Two of the interesting questions at present attracting attention is, How does the human malarial parasite keep up its cycle of existence, and how does it gain admittance into the blood of man? Its survival of the winter may be explained by the well-known fact that the tendency of this disease is to relapse, sometimes years after supposed recovery. In this way a patient supposedly cured of malarial fever by insufficient doses of quinin taken during the previous fall, has a relapse the following spring, and he in turn becomes the medium by which the disease is distributed.

As to how the parasite gains admission into the blood, if one theoretically holds to the belief that the spores of malarial fever breed in swamps or marshy districts and that the "miasm" is taken into the system through the respiratory tract, it necessarily implies that the spores or miasm must first have developed in some intermediate host, that they pass out of this host to become dried, and that they are blown through the air to the respiratory mucous membrane. According to Ross,[3] it is not the parasite itself which springs from the marshy ground, but the carrier of the parasite. On the other hand, if one theoretically holds to the belief that malarial fever may be contracted through the medium of drinking water, it necessarily implies that the spores of the disease, or whatever it is, pass out of the intermediate host into the water, and that the infective material remains alive in this medium though exposed to continuous changing conditions, or that the intermediate host contained in the drinking water is taken into the stomach through the medium of the food or drink. Lastly, if one holds to the belief, which has been confirmed by proof, that malarial fever may be contracted through the bite of the mosquito, he should state how such a condition may or does occur.

The question of preventive measures depends on a proper conception of its exact etiology. Marchiafava and Bignami[4] have studied the complete biological cycle in all the different species of human malarial parasites and have succeeded in inoculating four individuals with malarial fever who voluntarily submitted themselves to such investigation. They have been led to the following conclusions: MacCallum, while watching a flagellated malarial parasite (gametocyte), observed that after a time a flagellum became detached from the parent body and made straight for another parasitic body, which it entered, thus causing impregnation. From this phenomenon it is believed that flagellated parasites are of different sexes. Adopting the zoological nomenclature to simplify matters, one finds that mature sexual elements are spoken of as gametes (such as the crescent of the estivo-autumnal and its homologues of the tertian and quartan parasites). The female elements are known as macrogametes; the cells producing male elements are called microgametocytes, and the male elements themselves, microgametes. During certain periods of development of the estivo-autumnal parasite and its homologues in the other species of malarial parasites, if the blood be withdrawn from the circulation and left standing on the stage of the microscope for a period of from fifteen to twenty minutes, certain of the crescentic bodies change into ovoids, some of which subsequently become converted into flagellated parasites. From the latter forms free flagella (microgametes) tear themselves loose and penetrate certain other ovoid bodies which had not previously developed flagella. By this process fecundation of the female ovoid form (macrogamete) occurs, after which it rapidly develops flagella and by means of its sharp extremities has the power of penetrating dense muscular tissue such as the middle intestine (stomach) of the mosquito, and on doing so, after a day or two becomes converted into the zygote. Within the latter bodies the spores or sporozoites develop, and about the seventh day rupture into the celom or body cavity of the mosquito; thence they are carried to the salivary glands to be poured out the moment the insect bites.

After becoming more familiar with the literature on this subject, I next endeavored to find out if the anopheles quadrimaculata found around Philadelphia was susceptible to infection from the malarial parasite. At this time the A. claviger of India and Africa had not been identified as our A. quadrimaculata by Howard.[5] The following observations are recorded:

Observation 1.—December, 1889. Blood contained ovoids and crescents. After a trial lasting several hours a specimen of culex would not bite. This was my first failure, which was repeated two days later.

Observation 2.—July, 1900. An adult patient whose blood contained two groups of tertian parasites, was bitten by two anopheles quadrimaculatæ. One of these escaped, the other died and was not dissected.

Observation 3.—July 20, 1900. Blood showed a large number of tertian parasites—double tertian—which were afterward stained by eosin and methylene blue, and by carbol-thionin. After a trial lasting from 8 p. m. to 11 p. m. a specimen of anopheles punctipennis would not bite. A culex pungens caught in the room bit the patient and was kept at a temperature of about 84 for 7 days and dissected, but was found not to have been infected.

Observation 4.—July 27, 1900. Blood contained two groups of tertian parasites, some of which were almost full grown. The patient was bitten by two anopheles quadrimaculatæ, which were kept at a temperature ranging from 76 to 80 F., for 7 days; they were not infected.

Observation 5.—August 7, 1900. This man had been suffering with a double tertian infection and his blood contained a large number of malarial parasites. He was bitten by an anopheles quadrimaculata two hours before a chill, and by three others about half an hour to within a few minutes of the chill. The anopheles were kept at a temperature ranging from 84 to 88 F. The one which bit first died on the third day, and two of the others died on the fifth day. The last one was kept for seven days. All of them were dissected but contained no zygotes.

Observation 6.—August 29, 1900. Blood contained a large number of tertian parasites in different periods of development, some full grown, others very small. The patient was bitten by three anopheles quadrimaculatæ, one of which was afterward kept at a temperature ranging from 80 to 84 for four days. It was dissected, but showed no pigmented cells or zygotes.

Observation 7.—August 31, 1900. Blood contained two groups of tertian parasites. This patient was bitten by two of the same anopheles which had previously bitten Case 6. They were kept same as No. 6 and dissected on September 2, but contained no zygotes.

Observation 8.—Date September 24, 1900. Blood contained two distinct groups of tertian parasites, some of which were almost full-grown and others in the stage of segmentation. Two and a half hours previous to the chill patient was bitten by three anopheles quadrimaculatæ, which were kept at a temperature ranging from 76 to 80 F. One died on the fourth day; the others were kept for five days. All were dissected, but contained no pigmented cells or coccidia.

Observation 9.—October 31, 1900.—A case of double tertian, in whose blood at 5 p. m. a very large number of full-grown and very active parasites were found, was bitten at 8.30 p. m. by two anopheles quadrimaculatæ, which were kept at 80 to 84 F. One died on the third day, the other was kept for five days. Both were dissected, but contained no pigmented cells.

Observation 10.—October 27, 1900. Blood showed a few ovoids and crescents. Patient was bitten by two anopheles quadrimaculatæ, which were kept at a temperature ranging from 76 to 84 for three days and dissected. Two zygotes near each other and containing black pigment granules were found near the lower portion of the middle intestine of one mosquito.

I also made several trips to the houses where cases of malarial fever were being treated, and in every instance but one succeeded in catching anopheles quadrimaculatæ.

In this connection I must note that in many instances the patients explained to me that mosquitoes had not been troublesome, and some had not seen any at all. However, after searching through the house, anopheles were caught. This is easily explained, since patients have very frequently told me they could feel nothing, although at the time I could see the anopheles biting. These latter mosquitoes were afterward dissected, but contained no zygotes. Other anopheles were caught in barns in a district where a large number of cases of malarial fever had occurred, but none of these were infected.

In all of the cases here reported of malarial fever, parasites were found. Most of them were discovered in the fresh blood, but a large number were afterward stained, some with eosin and methylene blue, others with carbol-thionin, some with eosin and hematoxylin, and some by the Romanowsky method.

To recapitulate: Of 10 cases of malarial fever, 7 of them were bitten by 16 anopheles quadrimaculatæ and one by a specimen of culex, and in this series only one anopheles was infected (Case 10). I can only explain the cause of my failure to cultivate the zygotes in the majority of anopheles on the ground that but one of the cases probably contained the preflagellate forms of the malarial parasites at the time the anopheles bit (which confirms the results obtained by others), or else that the insects were not in a condition necessary for infection. (See note.)

The season was now drawing to a close, and after fourteen months of work, as good fortune would have it, the following interesting case, which is the last of the series, was very kindly placed at my disposal by Dr. Frederick A. Packard, visiting physician to the Pennsylvania Hospital of Philadelphia:

Observation 11.—The patient, white, aged 50, was admitted to the Pennsylvania Hospital, Oct. 31, 1900, suffering with estivo-autumnal malarial fever—H. præcox.

Examination of the Blood.—At 7:30 p.m., Nov. 1, 1900, a drop of blood was removed from the tip of the finger and was at once examined with a 1/12 oil-immersion lens (Leitz). Ovoids and crescentic malarial parasites (gamete-forms) were found, some of the latter being intracorpuscular and moving. Many of the ovoids contained a very large amount of reddish pigment, which for the most part was arranged around the periphery. In other ovoids from the center could be seen a small projection or rounded arm which moved outward toward the periphery. After about twenty minutes a flagellated malarial parasite was found. It was deeply pigmented and possessed about five long arms, which waved about quite rapidly. At the tip of one of these flagella there was a small particle of a red cell attached which was tossed around in all directions. Blood films were afterward selected and stained by eosin and methylene blue, by eosin and hematoxylin, by carbol-thionin, and by the Romanowsky method. They all showed ovoids and crescents. Following Manson's method, with some modifications, I succeeded in staining a flagellated malarial parasite by the Romanowsky method. Flagellated parasites appeared to be few in number, which may account for only one positive result. As soon as the flagellated parasite was discovered, a specimen of anopheles quadrimaculata was applied, which bit the patient. Six others subsequently bit. The mosquitoes, after biting, were kept in a warm locality for a period of probably one hour, and were afterward placed in a box and kept at an average temperature of 78 F. One of these anopheles was dissected on November 5 at 11 a.m.; it was not infected. Two others were dissected at 4 p.m., November 5; one was not infected, while another contained near the lower portion of the middle intestine 4 zygotes in different stages of development, which is characteristic of these bodies. (See plate.) Another was dissected November 7, and was not infected, while still another was kept thirteen days, but nothing was found. Two of the insects escaped.

While this anopheles probably only bit once, on Thursday at 8 to 9 p.m., and was dissected at 4 p.m. on the Monday following, the specimen of middle intestine evidently shows the zygotes of estivo-autumnal malarial fever in different stages of development; No. 1 is a very young form, resembling in contour and general appearances the ovoid body seen in the blood, while specimen No. 4 is of a later period of development. Specimen No. 2 resembles very much the crescent parasite of the fresh blood, thus evidently showing the powers of the zygote to preserve its original type.

The most distinguishing characteristics of the coccidia of this type of fever which serve as its means of identification are: 1. the presence of reddish pigment-granules

similar in color but larger than that seen in the malarial parasite of the blood. The pigment, too, is arranged around the periphery of the zygote; 2, the zygote of this stage has a very thin and hyalin capsule around the periphery; and 3, the distinctness of this pigmented cell. By this means I was able to identify these bodies, though much assistance had been afforded me by a speci-

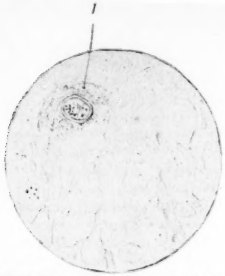


Fig. 1.—Ovoid-shaped zygote of an early stage of development about 8 to 10 microns in diameter, and containing numerous reddish pigment-granules and vacuoles.

men of middle intestine infected with the zygotes of proteosoma Labbé and loaned through the kindness of Dr. Ronald Ross.

Nothing can be determined by a macroscopic examination of the infected middle intestine of the anopheles. It still possesses its light brownish tint. With a No. 3 ocular and No. 7 objective (Leitz) the zygotes Nos. 1, 2, 3 and 4 become quite clear and the reddish pigment dotlets have a brilliant tint. The rest of the body

Fig. 2.—Crescent-shaped zygote, containing numerous reddish pigment-granules and pushing aside muscle fibers. Pigment-granules are of larger size than in No. 1, and pressed toward the periphery. About 7 microns in width, and 14 to 16 microns in length.

of the coccidia has a bright hyalin appearance, and in areas adjacent to the pigment a more or less granular appearance is observed. The general outline and finer characteristics of the coccidia are to be determined by a No. 3 ocular, and 1/12 oil-immersion lens.

Zygote No. 1.—This coccidium has the general characteristics of the ovoid body of the estivo-autumnal parasite seen in the fresh blood, with the exception that in the zygote the pigment granules are slightly larger and appear to be pushed outward toward the periphery of the cell. That portion of the cell body in which no pigment is observed has the faintest yellowish tint. The zygote possesses a very thin and hyalin capsule. The entire body stands out prominently from the surrounding cells. This specimen is located in the lower portion of the middle intestine and is external to the epithelial cells. It is slightly larger—8-10 microns—than a red blood-cell.

Zygote No. 2.—While the former coccidium was situated outward and external to the epithelial cells, this specimen selected a position among the muscular tissues, which it presses to either side. In shape it corresponds to the crescent of the fresh blood. It has a faintly yellowish and hyalin tint and around the periphery the brilliant reddish pigment granules are disposed. The granules are fewer in number than in the

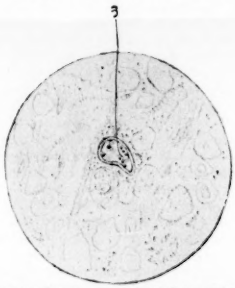


Fig. 3.—Vesicular-shaped zygote, containing bright reddish pigment-granules and slit-like vacuoles. The body of the coccidium has a faint yellowish tint. It is about 10 microns in diameter and 14 to 16 in length.

crescent parasite and are larger, looking as though there might have been a coalescence of these particles of destroyed hemoglobin. A faint colorless area—vacuole—surrounds each pigment granule and a more or less elongated slit-like vacuole is seen in the center, but any attempt to draw these only exaggerates their appearance. A very delicate and hyalin capsule surrounds the coccidium. The entire body has a stamped-out appearance and is very distinct. It is probably 7 microns in width and 14 to 16 in length.

Zygote No. 3.—This coccidium is the lowermost of all, being

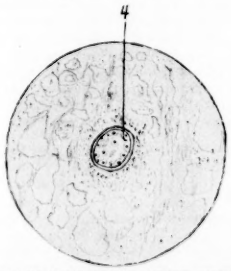
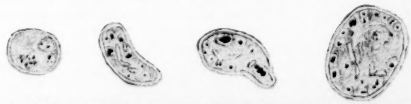


Fig. 4.—More or less ovoid-shaped coccidium, containing numerous reddish pigment-granules, which are distributed around the periphery. Numerous slit-like vacuoles are shown. Zygote about 12 to 14 microns in diameter, and 16 to 20 in length.



Description: Four zygotes (unstained) of estivo-autumnal malarial parasite (observation xi) in different stages of development, and found in lower portion of middle intestine of anopheles quadrimaculata (or claviger). No. 3 ocular and 1-12 oil-immersion lens (Leitz). The mosquito bit on Thursday, 8-9 p. m., and was dissected on the following Monday at 4 p. m. (November 5, 1900).

located near the middle intestine, which gives origin to the Malpighian tubes. It has a more or less elongated crescent shape and is probably of a somewhat later stage of development than the former two coccidia. It is situated external to the epithelial cells, and is adjacent to a spiracle—same as

No. 1. This zygote also contains reddish pigment granules, some of which are two or three times as large as those seen in No. 1. Faint vacuoles surround each pigment granule and a few slit-like vacuoles are contained in the body of the coccidium. The central area has the slightest yellowish tint. Its outline is sharply defined on account of the hyalin capsule which surrounds it. This zygote is about 10 microns in width, and 14 to 16 microns in length.

Zygote No. 4.—This coccidium has a flattened and ovoid shape, and is the largest of all. It can be readily studied with a 1/7 in. objective. It is also located in the region of the Malpighian tubes and is somewhat external to the deeper epithelial cells. It has a faint hyalin capsule, and bright reddish pigment granules of different sizes and shapes are disposed around the periphery of the body. Some of these are three or four times the size of the pigment granules of the H. præcox of the fresh blood. Certain portions of the inner lining of this coccidium have a more or less thickened appearance, and toward the center a few slit-like vacuoles are observed. Faint vacuoles surround each pigment granule. The central area of this zygote has a faint yellowish tint though the general appearance as in all the others is hyalin. It has a stamped-out appearance and is very distinct. All these characteristics are brought out by focusing up and down. In length this coccidium is probably two and a half times the diameter of a red blood-cell —16 to 20 microns—and is probably 12 to 14 microns in diameter. The general characteristics of the zygotes are best studied with the iris diaphragm about one-half open.

I wish to tender sincere thanks first to Dr. Frederick A. Packard for his kindness in placing this case for study at my disposal; next to Prof. Simon Flexner, of the University of Pennsylvania, who has placed at my service the facilities of his private laboratory for research work; and to the following named, who have given me the opportunity of studying cases of malarial fever, namely: Drs. J. C. Wilson, W. C. Hollopeter, M. T. Prendergast, J. M. Cruice, N. D. Pontius, Frank White, Julius Salinger, A. P. Francine, and George W. Norris; and to the Sisters of St. Joseph's Hospital for favors. To Dr. Ronald Ross I am greatly indebted for an examination of one of his specimens, and for his literature, which has been invaluable in identifying the coccidia herewith presented, and to your president, Dr. W. W. Keen, I must thank for his kind invitation to speak to you this evening.

This specimen presented is, I believe, the second one reported in America, the first one having been made by Dr. W. S. Thayer.

NOTE: After submitting this article for publication I read —Report of the Malaria Expedition to Africa, Liverpool School Tropical Medicine, Memoir No. 2, 1900; Ross, Annett, Austen, Giles, and Fielding-Ould—that in order for the zygotes to develop, the insects must as a rule first have obtained a meal of blood or must first have been fertilized. In my first few observations the anopheles were raised from larvæ, while in the last two instances adult mosquitoes were used.

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Xanthoma Multiplex.—Dr. William Osler recently exhibited, at his public clinic, two cases of that rare affection, xanthoma multiplex, the first observed at the hospital. Both were in women, aged 39, and both had jaundice, one of ten and the other of two years' standing. Each had sufferred from recurrent attacks of pain, vomiting, chill, fever and sweats, followed by increase of jaundice. There was not much loss of flesh.

AN ORIGINAL CHART OF THE NEURONIC ARCHITECTURE OF THE VISUAL APPARATUS.

WITH EXPLANATION.

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Having been deeply impressed by the study of the recent work of Dr. St. Bernheim, of Vienna, on "The Nuclear Origin of the Ocular Nerves and Their Connection With the Cortex of the Brain,"[1] and no comprehensive diagram being appended from which a general conception of this intricate mechanism could be gleaned, the idea was conceived of preparing a chart which would retain as far as possible anatomic relations, and at the same time bring graphically before the eye the neuronic architecture of the visual apparatus. In so doing Bernheim's text has been strictly adhered to. Bernheim's investigations extend over many years, and have been followed in various directions, namely by anatomic studies of the brains of young infants and embryoes, experiments on animals, biologic studies, the study of pathologic conditions in man, both clinically and subsequently on the anatomic specimens, and these studies have been further confirmed by physiologic experiments on monkeys, and pathologic conditions induced and subsequently traced and studied. The nerve fibers were traced by the Weigert stain, whereas their origin and final endings have been disclosed by the Golgi stain. These methods have been supplemented by artificial and naturally produced degenerations according to the Marchi method and that of Nissl.

This chart represents an entire cross-section of the brain, made on a level with the optic thalami; the temporal and frontal lobes have been cut away, as also the cerebellum, thus exposing pons and medulla. The eyeballs, optic nerves, chiasm and optic tracts have been sketched, showing the manner in which the tracts embrace the peduncles and then turn upward and inward to distribute their fibers to the primary optic centers, namely, the external geniculate bodies, the optic thalami and the anterior corpora quadrigemina, where they split up into fine dendrites which are in apposition with dendrites given off by the large ganglion cells in these primary optic centers. In their turn these ganglion cells send out dendrons, which are distributed to the visual centers in the cortex of the occipital lobes, where conscious vision is aroused; others go to portions of the occipital lobes where not only vision is aroused by contact with cortical cells, but these cortical cells give off dendrons which run to the motor cortical areas—visual association fibers. From the motor cortical areas the cortical cells send long fibers through the peduncles under the floor of the third and fourth ventricle to the motor ocular nuclei of the opposite side, thus inducing movements of the eyeballs or, passing downward in the cord, lead to movements of the hand and foot. But there is also a more direct connection between the optic nerve and the motor ocular nerves. Some of the fibers which pass down the optic tracts pass directly to the centers for the sphincter of the pupil and accommodation, thus producing the *short reflex arc* and through means of which all the other motor ocular nerves, third and fourth, are brought into communication with the optic nerve. But the sixth nerve is far removed from these centers and

1. Graefe-Saemisch Handbuch d. gesamt. Augenheilkunde, 1900, II. 15 u. 16.

this, as well as all the other cranial motor nerves, and even sensory impulses from without, are communicated by means of the posterior longitudinal bundle, which carries both centripetal and centrifugal fibers. Hence, the motor nerves of the eye can be aroused to action, 1, as a result of impulses derived from the motor areas of the cortex; 2, through the short reflex arc which exists between the optic nerve and the centers of the pupil and accommodation; 3, through the posterior longitudinal bundle, which connects not only the various motor nerves, but likewise carries sensory impulses from without, it being made up of both centripetal and centrifugal fibers.

The Retina is essentially made up of three distinct neurons: 1, the rods and cones, which are stimulated into action by the chemical action of light on the visual purple; 2, an intermediary cell, and 3, the large ganglion cells, which send their fibers isolated and direct to the primary optic centers carrying centripetal impulses —a few *centrifugal fibers* have been traced from the various primary centers and some have been observed in the cortical areas, but so little is known regarding them that they will receive no further attention here.

All these fibers derived from the ganglionic cells converge to a common area, the disc, and here form bundles of fibers which, after passing through the lamina cribrosa take on their myelin sheaths, forming the optic nerve, which passes backward through the optic foramen to the optic chiasm, where a partial decussation of fibers takes place.

The decussation has been the subject of much discussion and investigation. Bernheim finally declares that the fibers located dorsally, that is, nearest the brain, are uncrossed, whereas those ventrally placed—nearest the bony base—are crossed fibers. In the optic nerve these fibers are differently placed, depending on the portion of the nerve examined. Close to the disc, crossed fibers are found in the median and temporal parts; uncrossed fibers are found above and below; the macular bundle occupies the temporal quadrant, being made up of crossed and uncrossed fibers. About the middle third of the optic nerve, the crossed fibers occupy a section from above and to the temporal side downward and inward; the macular bundle occupies a central position in the nerve. At the optic foramen, the crossed fibers occupy almost in a vertical line the median half, the uncrossed the temporal half. In the chiasm, the uncrossed are above, the crossed fibers below. In the optic tracts, the crossed and uncrossed fibers, peripheral and macular, are dispersed equally, and the bundle arrangement is entirely lost. At the disc the macular bundle lies to the temporal side; in the optic nerve it is centrally located, whereas in the chiasm it is wedge-shaped, crossed fibers below, uncrossed above and in the tract its fibers are thoroughly mixed with all the others.

The optic tracts diverge in a wide circle, pass under the peduncles of the brain and become flattened, and embrace the peduncles, pass upward and inward to be distributed to the primary optic centers. Where the tracts turn to bend upward a longitudinal furrow appears, which divides the tract into a median and a more lateral portion. The lateral portion of the tract is lost in the corpus geniculatum externum and the optic thalamus, whereas the median branch goes through the corpus geniculatum medial to the anterior corpora quadrigemina.

In the optic nerve are found only fibers which are intended for the visual act and those which produce pupillary reflexes. In the chiasm a bundle of fibers is found—persisting in degenerative processes—which has nothing to do with sight. These fibers run from the internal geniculate body of one side along the inner side of the tract, through the dorsal side of the chiasm, to occupy the same position in the opposite tract and internal geniculate body. Some of these fibers extend under the anterior corpora quadrigemina to the corpus Luysii, a small nucleus anterior to the nuclei of the third nerve and to either side of the optic thalami. This bundle of fibers is known as von Gudden's commissura, and its exact nature is unknown, as is also the use of the fibers which go to the corpus Luysii. Some few of the fibers extend into the posterior quadrigemina, and in this manner are brought into relation with the sense of hearing. Hannover's fibers, found partly at the anterior, partly at the posterior surface of the chiasm, are not in any way connected with the body of the chiasm. Meynert's fibers lie parallel to the posterior arc of the chiasm, are not incorporated in the nerve proper, and are not anatomically considered a part of the chiasm.

Bernheim states that in the chiasm some of the fibers split, one branch going to either side; likewise anastomoses take place; further, that fibers of different caliber exist, one to produce impressions of sight, the other to cause reaction of the pupils. Anatomically no difference exists between crossed and uncrossed fibers. In the tract the fibers are arranged regularly, one next to the other, until they reach the bend and the fibers ascend to reach the primary optic centers. Fully 70 per cent. of all the fibers enter the external geniculate body, and all the macular fibers are supposed to be included here. The external geniculate body is made up of alternate layers of white and gray substance. In the gray substance are found multipolar cells closely matted together, between which the fibrils, radiating fan-shaped, end. These fibrils are the true optic-nerve fibrils, both crossed and uncrossed, of practically equal proportions. Another set of fibrils pass around and under the edge of the external geniculate body and pass over on to the surface of the anterior corpora quadrigemina. Still others take a course backward and downward and then forward to get beneath the surface of the aqueduct of Sylvius. These are both crossed and uncrossed fibers and intended to produce the pupilary reflexes.

Of those fibers which enter the optic thalamus, the main body passes under the external geniculate body and into the pulvinar, and can be followed as far as the stratum zonal. Other fibers pass between the two geniculate bodies, especially around and through the geniculate body medial to the deep portions of the thalamus, ending in the pulvinar and designated as the deep thalamus fibers of the optic nerve in contradistinction to the superficial, which pass through the corpus geniculatum medial and anterior corpora quadrigemina. Bernheim asserts that no fibers end in the corpus geniculatum medial; hence this body has nothing to do with sight.

The Oculomotorius or Third Nerve.—Seated in the floor of the third ventricle occupying an area equal to and situated just beneath the anterior corpora quadrigemina, are the nuclear centers for the third nerve. In the drawing, owing to the impossibility of otherwise displaying the individual nuclei, this area has been greatly exaggerated. The entire mass of nuclei occupies the space to either side of the median raphe, and are arranged so as to form a concavity laterally to either side. In a frontal section, the edges would converge ventrally whereas they would diverge dorsally, and the posterior

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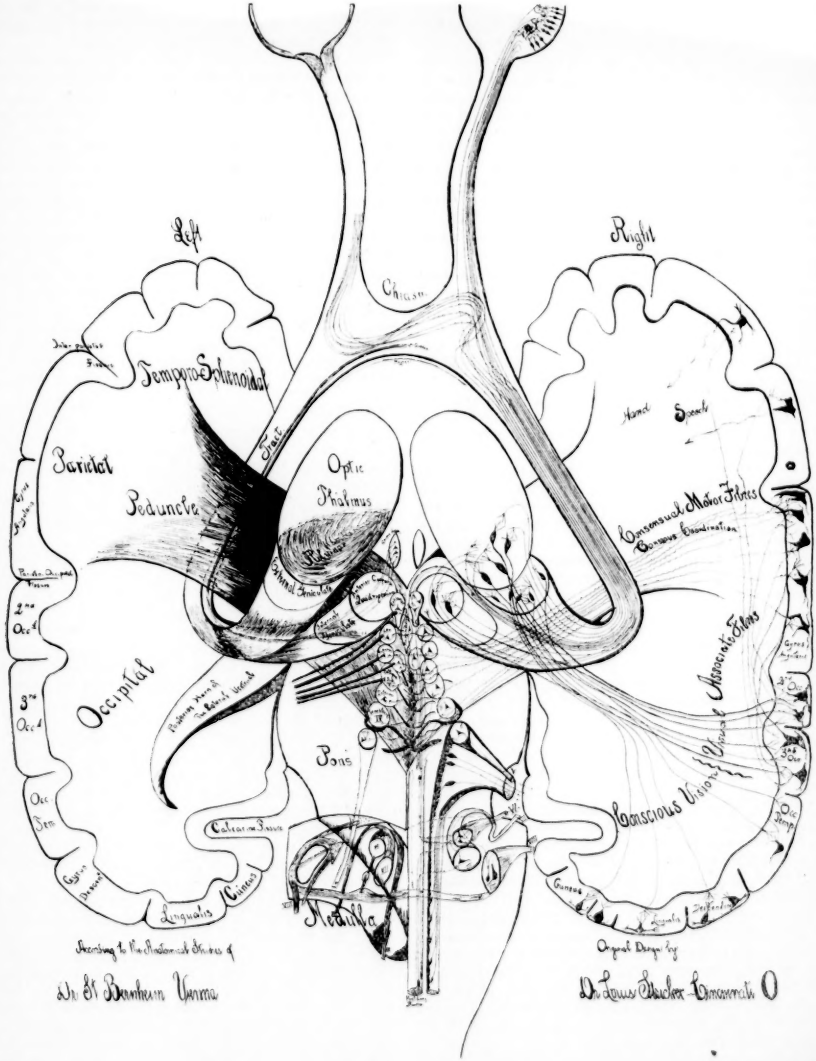
THE NEURONIC ARCHITECTURE OF THE VISUAL APPARATUS.



DIAGRAMMATIC.

longitudinal bundle would occupy a space ventrally and laterally.

Strictly speaking, there are no distinct lines of demarcation between the various nuclei which supply the fibers for individual muscles. The nuclei gradually merge one into the other. Aside from the large motor ganglion cells, one finds numerous small round cells which are the intermediary link by means of which the motor ganglion cells of the nuclei are brought in contact. The same is true of the nuclei on opposite sides of the median raphe. The motor cells do not send commissural fibers across the median raphe, but contact of dendrons through the medium of the round cells has been established. The fact that some of the nuclei send their fibers, or a part, to the opposite side has given rise to the belief that a commissura existed.

Lying within the proximal end of the nuclear region are two nuclei made up of smaller ganglion cells than the other nuclei, and known as the small-celled nuclei, and identical with the Westphal-Edinger nuclei. Seated below this, occupying a central position, spindle-formed in shape, containing large ganglion cells, lies a single nucleus. It is sharply defined from the lateral nuclei, its dorsal edge lies within the limit of the lower edges of the two small-celled nuclei, whereas fine dendrites from the posterior longitudinal bundle just reach its ventral surfaces. These three groups of cells are particularly important in that they receive fibers coming direct from the optic tract, thus producing what has already been spoken of as *the short reflex arc*. This offers an explanation for the direct and the consensual reaction of the pupil and the accommodative act, also by this connection all the other motor-ocular nerves are influenced. The fibers derived from the nuclei in the anterior portion of the nuclear area go to the same side, those derived from the lower portion are nearly all crossed. All the fibers which cross to the opposite side converge toward the median line, dip down below the raphe, and rising up again on the opposite side, diverge fan-shaped, passing between the fibers of the posterior longitudinal bundle. The uncrossed fibers dip down with a slight concave curve on the same side, pass between the fibers of the posterior longitudinal bundle, and remain on the same side.

As a result of physiologic experiments and experimentally produced pathologic conditions, subsequently microscopically studied, regions have been mapped out, the fibers derived from which supply the nerves to definite muscles. The small-celled nuclei anteriorly placed supply the sphincter of the pupil, and the fibers go to the same side. The large-celled single spindle-shaped nucleus supplies the muscle of accommodation of both eyes, sending fibers to both sides. At the distal end is the center for the rectus inferior, the fibers passing to the opposite side.

Following in order lie the center for the obliquus inferior sending fibers to the opposite side, and from the ventral portion fibers go to the same side. The center for the rectus internus gives off fibers to the same side and from its dorsolateral portion fibers go to the opposite side. From the center of the rectus superior fibers go to the same side, and from the center of the levator fibers go to the same side.

The Trochlear or Fourth Nerve.—This lies in almost direct connection with the oculomotor. The fibers emerge from the lateral side of the nucleus, make a slight curve outward and downward close to the fibers of the posterior longitudinal bundle, and then on a level with the descending root of the trigeminus they pass upward again to a point on a level with the widening aqueduct of Sylvius. Here the fibers form several bundles and turn abruptly backward in the roof of the fourth ventricle, where they cross over to the opposite side and appear at a point close to the posterior part of the posterior corpora quadrigemina and embrace the lateral side of the peduncle as a compact nerve root.

The Abducens or Sixth Nerve.—This nerve takes its nuclear origin about the center of the floor of the fourth ventricle. The nuclei lie close to the median line and are separated from each other by the fibers of the posterior longitudinal bundle. Its nucleus lies in a hollow space, the result of the curve made by the fibers from the facial, which almost encircle it. The ganglion cells are multipolar and of the motor type. The fibers arising from this nucleus take a dorsal and median direction toward the floor of the fourth ventricle, joining together to form a more compact band to the median side of their nuclear origin. Making a distinct curve, they turn backward toward the ventral surface of the brain to make their exit in the pons to either side of the median raphe. The fibers of this nerve remain on the same side. From the ventral and lateral surface of the nucleus a few fibers extend to the small olivary body. These fibers are especially important in that they help to close the circuit between the acoustic and the sixth nerve.

The Facial.—The nuclear origin lies somewhat posteriorly and laterally from the abducens. All the fibers derived from this center extend upward and inward toward the median line, and then curve around toward the floor of the fourth ventricle, and in so doing cover the dorsal and lateral portions of the sixth nerve. The fibers then bend downward toward their origin to finally make their exit on the same side in the pons. Owing to the peculiar course which these fibers take, they are not only brought in close connection with their own nuclei, but with the abducens, which they almost encircle, with the posterior longitudinal fibers, and with the sensory root of the fifth nerve.

The facial sends branches to the orbicularis palpebrarum and the frontalis muscle. So far as known, the only manner in which these muscles are brought into simultaneous action with other eye muscles is through the medium of the posterior longitudinal bundle.

The Trigeminus.—The fifth nerve supplies the sensory nerve fibers to the eye. The fibers are derived from the first and second large branches derived from the Gasserian ganglion. The sensory nuclear origin consists of a large ascending sensory spinal root, which extends down almost to the first cervical nerve—Bernheim calls this a descending root—and a smaller descending root. The motor nuclear origin lies close to the motor nuclear origin of the fourth nerve.

The spinal sensory portion as it ascends is in relation with the nerve vestibuli, the ascending portion of the facial and the posterior longitudinal bundle.

The Acoustic.—The accessory nucleus or central ganglion of the cochlear branch of this nerve is brought in relation with the sixth nerve by means of the fibers which run toward the median raphe to reach the trapezoid body. The trapezoid body contains ganglion cells which send fibers to the small or upper olivary body —nucleus olivarius superior—which latter has fibers connecting it with the sixth nerve. Thus the acoustic nerve can be brought in direct relation with the sixth nerve, and then through the posterior longitudinal bundle with the other motor ocular nerves. This gives the anatomic explanation for the physiologic reflex phe-

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nomena of turning our eyes in the direction of a sound.

The Posterior Longitudinal Bundle.—This, derived from the anterior fundamental strand in the cord, gradually comes to occupy a dorsal position close to the median raphe, under the fourth ventricle and upward under the fissure of Sylvius. Its line of demarcation is never very sharply defined, since it gives off fibers to neighboring strands of fibers. It has been followed as far as the nuclear origin of the third nerve. It is the connecting band by means of which the various motor ocular nerves are brought in communication with each other and by means of which the various synchronous movements of the eye-balls are brought about. It contains both centripetal and centrifugal fibers. As we have seen, some of the optic-nerve fibers go directly to the nuclear origin of the fibers which produce the pupillary reflexes.

The Short Reflex Arc.—Through means of this, all the nuclear centers of the third and fourth nerves are brought in direct connection with the optic nerve. These are further connected with each other and other cranial sensory and motor nerves by means of the posterior longitudinal bundle.

The conditions of the sixth nerve are particularly interesting, especially its connection with the rectus internus, in the production of synchronous movements of the two eyes to the right or left. A portion of the fibers derived from the nuclear origin of the rectus internus go to the opposite side, and by means of the longitudinal bundle, the abducens on one side of the raphe is connected with the rectus internus of the same side, part of the fibers of which go to the opposite side. At the same time, from the nuclear origin of the rectus internus the dendrons transmit the impulse by contact to the opposite nucleus, thus giving the full impulse to produce the movement inward of the one eye, while the abducens turns the other eye outward.

Cortical Areas of Sight.—We have seen that fully 70 per cent. of the optic-nerve fibers, both crossed and uncrossed and containing all the macular fibers, end in the lateral geniculate body. The fibers derived from the ganglion cells in this body at the same time taking up the fibers derived from the thalamus and the anterior corpora quadrigemina make their exit to the lateral side of the lateral geniculate body and pass around the posterior end of the corpus striatum and the lamina semicircularis, descend along the posterior horn of the lateral ventricle as a massive tract, known as the fibers of Gratiolet, to reach the occipital lobes. The fibers derived from the external geniculate body pass to the cortical areas of the occipital lobes in the region of the calcarine fissure, lobus cuneus, lingualis, gyrus descendens and the occipitotemporal lobes. This is the exclusive area of conscious vision. The fibers derived from the centers located in the corpora quadrigemina anterior and the optic thalamus are distributed to the second and third occipital lobes, areas not only for visual perception, but the fibers here come in contact with cortical cells which send their dendrons into neighboring areas, especially those areas which control movements and conditions that stand in relation to sight. This is true especially of the synchronous movements of the eyeballs. Thus, disease located toward the median portion of the brain, in the occipital lobe, would lead to loss of vision, in one-half of the field—hemianopsia—whereas disease more laterally located in the occipital lobe, attacking association fibers, besides producing hemianopsia, would present to us clinically soul-blindness, alexia, optic aphasia.

The association fibers connect the visual centers with the motor centers and go particularly to the gyrus angularis, irritation of which produces movements of the eyes in the opposite direction. That is, irritation of the right angular gyrus causes the eyes to turn to left, up or down. From the motor areas the fibers pass down through the peduncles under the fissure of Sylvius to the nuclei of the motor ocular nerves of the opposite side—a point of great value in the diagnosis of ocular paralyses and their relation to cortical disease.

ADDRESS BEFORE THE NEW YORK STATE ASSEMBLY COMMITTEE ON PUBLIC HEALTH.

IN THE DISCUSSION OF THE BELL BILL ("CHRISTIAN SCIENCE BILL") PROHIBITING THE PRACTICE OF MEDICINE BY UNLICENSED PRACTITIONERS.*

ROBERT T. MORRIS, M.D.
NEW YORK CITY.

We have listened to a great deal of oratory to-day in favor of various peculiar methods for treating disease. Now let us get down to plain common sense for a little while, if we can.

I would first ask the honorable members of the Assembly, before giving consideration to the points I am to make, to read in the *New York Sun* of January 27, the article by Dr. Wm. Osler[1] on "Progress in Medicine During the Nineteenth Century." I would ask them to read in the same periodical of February 3, the article by Dr. W. W. Keen[2] on "Progress in Surgery." From such basis of information it will be easy to place a proper estimate upon the value of fanciful theories of practice which you are asked to license.

When a group of believers in some theory cry "persecution" and claim to have something new, they are certain to engage the human nature of that large part of the public which does not know of the hundreds of new books and carefully conducted experiments, which annually mark the real progress of the substantial regular medical profession.

Nothing that claims to be new is neglected by responsible physicians, engineers or manufacturers.

OSTEOPATHY.

First let us consider the osteopaths: They have described, this afternoon, methods of treatment which are recognized as of value by regular physicians, but have described them in a crude way and have used, for its effect, the captivating statement that they seek the cause for disease and then remove the disease. How this appeals to all of us! It is like the prop that any new religious cult chooses for bolstering up its tenets—the prop of fraternal love and of duty to others. It promptly engages popular attention.

So they tell us that they seek for the cause of disease and then remove it. It is like the story of the boy who caught a six-pound bass up by the big rock! If you don't believe it we will go up and show you the rock!

The osteopaths must of necessity benefit many cases that are adapted to their methods of treatment and our objection to licensing them is that they are wishing to assume too great responsibilities on a small margin of medical education. They are trying to find an easy way into a profession which requires long and arduous study before its members are fitted to care for our fathers and mothers, brothers and sisters—a profession that requires students to pass the regents' examination before even beginning the study of medicine.

All that we ask of the osteopaths is that they pass the examination in the rudiments of medical knowledge which our state requires of physicians, and after that they may practice what they wish. The state, for the protection of its citizens, simply asks them to show that they are familiar with the first principles of medical knowledge. Their practice is in principle the practice of the movement cure and of massage, which are recognized as important when properly applied. Their claim for having something new is entirely discredited by students of the well-established movement cures. It is not the sins of commission that are so harmful as the sins of omission made by men who are crudely prepared for practice.

One of the osteopaths has told us this afternoon that they have treated more than half of our senators and representa-

* Delivered at the State Capital, Albany, N. Y., Feb. 6, 1901.

1. JOURNAL A. M. A., February 2, p. 327.
2. Ibid., February 9, p. 383.

tives at Washington. I suspected as much. Charlatans first try their treatment on public men in order to use their names. Patent medicine men first try their drugs on clergymen who are trained to accept things on faith. Responsible physicians first try their theories on the dog. [Laughter.] Why this murmur of laughter? It is not a flippant statement; I am speaking the plainest sort of truth. The reputable physician does not tell the public of the public men he is treating. He does not tell of his cures "after others have failed," but he earnestly works for the benefit of the public. That is his ideal of life work. Do not think that physicians are trying to protect themselves in urging the passage of this bill. It is for you that we are at work. What difference would it make in my income if every bootblack were to practice medicine—not one dollar's worth.

The osteopaths tell us that they have received recognition in several states. That is because responsible physicians have felt that it was beneath their dignity to enter into a contest with them, but the time has arrived when we must attend to the matter.

Two men have been brought here this afternoon, from a distance, to testify that they have been cured by osteopaths. How far would a responsible physician have to go to find two patients of his who had been cured? Every hour in the day he is engaged in relieving suffering, curing disease, and so successfully that he would not stoop to the necessity of asking his patients to come here to testify to the results of his work.

Physicians do make mistakes—but the better the education of the physician, the fewer mistakes he makes; therefore, do not admit into our ranks men who are unwilling to qualify themselves against making mistakes.

An advocate of the osteopaths, Mr. Burroughs, says that "any *law* which decides against the rights of a man to heal suffering interferes with the rights of American citizenship." That is another "catch phrase." Will the osteopaths relieve suffering any less if we require of them an education which the state requires of its physicians?

"CHRISTIAN SCIENCE."

First let me say that I do not accept the nomenclature of "Christian Science" as descriptive, because science is classified knowledge, and they do not classify their knowledge properly for presentation to the people of normal minds. The "Christian" part of the nomenclature I must leave for others to discuss.

I have in the hospital at present a patient who had cancer of a certain organ. The "Christian Scientists" began treatment of this patient at a time when the disease was easily curable by surgical operation, and they continued treatment until the disease had progressed to a point where a desperate operation was required in order to save her life. This is one specific instance of injury caused a trusting patient who did not deserve to suffer. . . .

The "Christian Scientists" tell us that no coercion is used in bringing patients to accept their treatment. How about the case of a dutiful child? As to the matter of coercion, let us consider it. A woman of high social standing, of delightful personality and lovely character, goes into homes where a pleasant face is welcomed and a kindly word is a solace. She uses no coercion, but, let me assure you that her *persuasion* is more effective than four coercive policemen with clubs!

Let me quote another specific case of maltreatment. A little girl suffering with favus or "milk-crust," living not far away from me, has been under treatment by "Christian Scientists" and has received no other treatment. Her hair is nearly gone and she has been the means of spreading infection. When she develops into a beautiful young woman, and is ready to take her graces into society, she will have about eight hairs pointing in different directions, and I fear will curse the people who with kind words and soft voices have brought her to this predicament.

These cases quoted are of specific injury to the individual. Let me cite another of menace to the public. In a boarding-house containing twenty people, one of the number, a school teacher, developed measles. She called a "Christian Scientist," who told her that she merely "had a *belief* in a fever," but that she was not really ill. She associated with the other nineteen people at the table. A chambermaid made the diagnosis of measles and informed the other people in the house, but the "Christian Scientist" insisted that the patient did not have measles and that she should go about among the people at the house and among her pupils as she pleased.

This instance brings up a point that I wish to make. The attorney of the "Christian Scientists," Judge Tolman, has told us that this bill is an encroachment upon religious liberty, and he asks if the legislators of this state are willing to assume the responsibility of passing upon the religious belief of a large number of the citizens. Now, it is a matter well established in law that when the acts belonging to a religious belief are injurious to the community, they must be repressed. Last year the angel dancers of New Jersey claimed religious liberty, but their acts came under the practical consideration of New Jersey justices and a part of their religious liberty ceased. Judge Tolman brings up the matter of personal rights. In this case of measles in a house with twenty other people, the patient claimed the personal right to employ whom she pleased for a physician. What, I ask, were the personal rights of the other nineteen people in the house? They had the right of protection from a state which licenses its practitioners.

A "Christian Scientist" afflicted with a dangerous but curable disease has not even the right to treat himself, because attempted suicide under our New York statutes is a crime. Either Judge Tolman does not know the law relating to religious liberty, which is improbable, or else he has tried to mislead your honorable committee by the adroit use of words.

Mr. Norton has told us that this legislation against "Christian Science" would be legislation against Almighty God. Wait a moment. Infectious diseases are caused by bacteria. Bacteria are God's creatures—He wishes them to grow. If "Christian Science" treatment kills these creatures of God, the treatment which Mr. Norton would apply is apparently directly opposed to the will of God, although for my own part I am too humble to assume that I know His wishes.

Let me quote a specific instance showing the type of mind that is commonly found among the "Christian Scientists." Curiously enough I see the patient before me in the audience. Last year he came to my office with a tumor of the scalp, saying that he did not wish to have me treat it, but merely wished to show it to me, as it was growing smaller under his treatment by faith. I made a diagnosis of a sebaceous cyst and he paid my office fee for an opinion without a murmur. He returned again some months later to say that it was growing still smaller. It finally became so "*small*" that he had to have it removed! By the irony of fate it was in a position to be in plain view of all his brethren. This is simply an instance of self-delusion which is common among "Christian Scientists."

When the members of this audience who have been "cured of defective vision" by "Christian Science," and who have thrown away their glasses were asked to rise, about seventy-five arose. Now, all of these people still have the same errors of refraction that they had at the time when the glasses were thrown away, and I will ask you to remember this as a basis upon which to place an estimate of the character of many of the other cures. It is simply a matter of self-deception. These people will not admit that they still need their glasses, but members of their families or friends will tell us the truth about it, although some people with glasses improperly fitted are of course benefited by throwing them away.

I found a pathetic instance yesterday. One of the loveliest women whom I know had persuaded a poor woman who was short-sighted that she did not need her glasses any more. Her daughter tells me that she stumbles over chairs, falls in going up-stairs, can not thread her needle, and yesterday she stepped on the cat!

One of my old college friends who is now engaged in manufacturing proprietary medicines—and good ones—tells me that the testimonials of wonderful cures from the use of proprietary medicines that are published in the newspaper advertisements are not written in the office, as most of us suppose. He says he can put up brick dust if he wishes, advertise it sufficiently and receive by every morning's mail a pile of letters a foot high testifying to the wonderful cures that it has produced. This credulity is one of the traits of the human mind and is marked in an abnormal degree, to the extent of proselyting credulity, among the "Christian Scientists." It is simply a psychologic phenomenon. Psychology is physiology and abnormal psychologic manifestations simply represent a physiologic defect. It is like the matter of free will, which is no more free in man that it is in other animals, and which is determined by the organization of the individual and by the environment of the moment. . . .

I have not one thought of enmity toward the "Christian Scientists," not one unkind feeling. They simply need our care and the public needs to be protected against them when their acts become more harmful than beneficial.

We all know the powerful effect of the mind over symptoms of disease and even over disease. The successful physician makes use of it in his every-day round. I would frequently refer patients to "Christian Scientists" for the relief of symp-

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toms if I knew any among these people who were responsible, but the proportion of good which they do as compared to the injury resulting from neglect of cases for which they assume responsibility would not appeal to your honorable legislators as justifying their protection under our medical practice laws.

Personally, by religion I am a materialist, a monist, yet I so love the Christ of Ernest Renan and of Robert Speer that it makes my very flesh creep to use His name in the presence of an audience of blasphemous followers who charge money for incompetent services. Let me quote from the tenth chapter of St. Luke, where Christ says to His followers: "And into whatsoever city ye enter and they receive you, eat such things as are set before you and heal the sick that are therein. . . . Carry neither purse nor scrip nor shoes." Most of the "Christian Scientists" whom I know at least carry their shoes!

I will not charge "Christian Scientists" with being intentionally blasphemous. There are few more attractive characters and no lovlier dispositions than those of some of the "Christian Scientists" whose minds are disabled by physiologic defect secondary to a certain physical degeneration or injury.

The high character of "Christian Scientists" is often quoted in justification of their acts, but it is no higher than the character of the judges who sentenced witches to be hanged and who represented the best classes in society. We do not justify the acts of these judges.

. . . Almost every year the newspapers contain accounts of some new healer who believes in himself and who is believed in by multitudes. The accounts of his miracles do not gain much momentum to-day, however, because they are readily explained by physicians who understand hysteria and trance death. There are text-books on the subject easily accessible for all of you. There are protean nervous derangements belonging to hysteria which are very amenable to the influence of the mind. There are many symptoms and some functional diseases not belonging to hysteria which are also under the control of the mind. Even such a disease as rheumatism, due to functional disturbance of the liver, might in some cases be controlled by mental stimulus sufficient to stimulate certain sympathetic nerves. No one denies the fact of many cures under mind treatment. We simply deny their supernatural nature and state that they are subject to rational explanation. We further must insist upon proper estimation of their proportionate value in the whole field of disease. It is this loss of the idea of proportion that sometimes leads very intelligent people astray when taking testimony. . . .

In view of the specific instances I have given of public danger and of personal injury resulting from the acts of these good "Christian Scientists," who for the most part are perfectly honest in their beliefs, I would ask your honorable committee to consider with great deliberation the advisability of allowing them the right to assume such responsibility as is required of physicians.

58 W. 56th St.

ANASTOMOSIS OF THE URETERS WITH THE INTESTINE.

A HISTORICAL AND EXPERIMENTAL RESEARCH.*

REUBEN PETERSON, M.D.

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CHICAGO.

(Continued from page 507.)

DUVAL AND TESSON,[4] 1900: *Three dogs; bilateral ureterointestinal anastomosis; two dogs died of pyelonephritis.* These experimenters operated on three dogs, in each case implanting both ureters in the rectum. They combined the operative technique of Kryñski and Fowler. The ureters were secured obliquely on a mucosal flap; over this flap were sutured the serosal and muscular layers.

One dog died twenty hours after the operation, from defective technique. Both ureters were found obliterated. One dog lived two and one-half months. Post-mortem showed the uretero-rectal anastomosis good; ureters patent. Bilateral pyelonephritis existed without distention. The third dog lived seven months. An autopsy showed the uretero-rectal orifices patent with slightly dilated ureters. Both kidneys were markedly distended and were the seat of grave pyelonephritic lesions. The mucous valves were atrophied so as to be unserviceable. The conclusions were that uretero-intestinal anastomosis could only be successful when the trigonum, together with the ureteral orifices, was transplanted.

Perhaps the most striking fact revealed by a study of these experiments is the exceptionally high mortality accompanying the operations, whether one or both ureters were implanted in the bowel. While it is impossible to accurately state the exact number of dogs operated on, because of the indefiniteness of the reporters in recording their work, I have endeavored, for the sake of comparison, to collect such data as are unequivocal.

Out of sixty dogs in which one ureter was implanted into the intestine there were twenty-three recoveries, or 61 per cent. mortality, while out of sixty-eight dogs undergoing bilteral ureteral anastomosis only ten survived, or a mortality of 85 per cent.

The mortality of the bilateral implantations is actually more than 85 per cent., since Martin does not state in what proportion of his thirty-four experiments were both ureters implanted, hence the entire number must be excluded, although his recoveries, numbering three, are included.

Again, among the ten dogs recovering from a bilateral uretero-intestinal anastomosis are three in which the ureters were implanted, not simultaneously, but at different stages. Since the danger attending implantation in two stages is obviously less than where both ureters are implanted, these three cases (Boari, one; Giordano, two) should, strictly speaking, be excluded.

The causes of death are various, but most prominent is peritonitis through a giving way of the uretero-rectal stitches and the subsequent escape of urine into the peritoneal cavity, or an overwhelming infection of the kidney ascribed to nephritis or uremia.

The different operative procedures employed may be conveniently divided into eight groups:

1. The severed ureter is inserted into the intestine through a small incision in the bowel wall and secured to the latter by sutures, which are passed through the intestinal serosa, and then either through the peritoneum removed with the ureter or its fibrous coats. (Glück and Zeller, Tuffier, Reed and Martin.)

2. A small incision is made through all the coats of the bowel and the ureteral and rectal mucosa sutured. The incision is then carefully closed about the ureter by Lembert's sutures. (Morestin.)

3. A V-shaped flap is formed in the anterior intestinal wall, to which the ureters are sutured. This flap is buried by suturing over it the lateral folds of the bowel wall. (Vignoni.)

4. A rectangular flap containing the ureteral orifices is inserted into the bowel through an incision in its anterior wall. This flap is sutured to the freshened mucosa on the posterior wall of the bowel. (Pisani.)

5. A ligature with a needle at each end is passed through the end of the severed ureter. The nedles are passed through a small slit made in the bowel wall and brought outside the intestine from one-half to one inch below. The two ends are made taut and the ureter is drawn into the bowel. The ureter is then secured in position by sutures. (Bardenhauer, Reed and Van Hook.)

6. The ureters are buried under the serosa and muscles of the intestinal wall and secured in place by sutures uniting the ureteral and intestinal mucosa, or drawn into the bowel as described under method 5. The muscular and serosal flap is then sutured over the ureters. (Kryñski and Martin.)

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* Read before the American Gynecological Society, Washington, D. C., May 1, 1900.

7. The ureters are secured to a mucosal flap valve and buried obliquely under the serosa and muscularis. (Duval and Tesson.)

8. The anastomosis of the ureter and intestine is made with a mechanical device, which, after union is secured, passes into the intestine. (Boari.)

As has been shown, the primary mortality was exceedingly high with all these methods. The method which calls for the least amount of suturing of the ureter itself will be found to give the best results. (Reed and Van Hook.)

A number of methods were devised with a view of preventing an ascending infection, but these efforts did not meet with success. I have been unable to find a single case in which the kidneys were shown to be normal beyond dispute. One can hardly accept such loose statements as those made by Kryński, who, in speaking of the results of his new operation, says he has never seen disease of the kidneys or ureters follow its use, yet fails to give his experiments in detail. Again, Boari, in describing the specimens removed from an uretero-rectal anastomosis, states that macroscopically the kidneys presented no grave lesions.

The post-mortems on the animals surviving the operation for any length of time in nearly all instances showed unmistakable evidences of stenosis of the ureteral orifice, hydroureter, hydronephrosis, and pyelonephritis. In only a few instances were bacteriologic or miscroscopic examinations made, and without such examinations proof of the integrity of the organs can hardly be conclusive.

The most carefully conducted examinations were made in Martin's cases, and they showed in every instance inflammatory changes. As already pointed out, Novaro's case failed to demonstrate that the kidneys and ureters of the animal living four months were normal. In Reed's and Boari's cases the specimens were not examined microscopically, and the same may be said of Kalabin's cases. Briefly stated, the collective experimental results of uretero-intestinal anastomosis without the preservation of the vesico-ureteral orifices have shown that the operation is a failure, either primarily from defective technique, or from overwhelming renal infection. The surviving animals showed grave kidney lesions, the result of preceding pyelonephritis. Frank's experimental work with the vesico-rectal anastomosis will be discussed in connection with the report of a case operated upon by his method.

In order that the value of the conclusions to be drawn from recorded cases of uretero-intestinal anastomosis in man may be correctly estimated, short abstracts of the cases will be given as nearly as possible in chronologic order.

It is obviously impossible to be exact chronologically, since in quite a few instances the date of the operation has not been included in the report. Under the circumstances I have arranged the cases according to the date of publication of the article containing the report.

SIMON,[42] 1851. *Bilateral uretero-rectal anastomosis; death one year after operation; inflammatory changes in ureters and kidneys.* The first attempt to deviate the course of the urinary flow into the rectum was made by John Simon in 1851. He reasoned that in reptiles and birds the genito-urinary and digestive tracts ended in a common cloaca, and that there was no good reason why this anatomical arrangement should not be artificially produced in man. He also called attention to the sphincteric control over the urine possessed by those individuals who, after being operated on for vesical stone by way of the rectum, were left with vesico-rectal fistulæ. These views he proceeded to put to a practical test in the case of a 13-year-old boy who came under his care suffering from exstrophy of the bladder. The operation was performed July 5, 1851. By a specially devised instrument Simon succeeded in passing threads from the ureters into the rectum, so that, when tightened, pressure necrosis took place and uretero-rectal fistulæ were formed. By the tenth day some urine passed per anum. Three weeks after the operation most of the urine flowed directly into the rectum. At the end of three months an unsuccessful attempt was made to close the natural ureteral orifices. Seven months after the operation the openings into the rectum were still patent, although considerable contracted. The patient died of exhaustion twelve months subsequent to the operation. At the autopsy the ureters were found blocked with calculi the size of peas or beans. The ureters and kidneys were seriously diseased, the pathologic changes being due to the surgical method employed which had "excited suppurative inflammation along the mucous surface of the ureters."

ROUX,[40] 1853. This experimenter, evidently without any knowledge of Simon's case, proposed that the ureters be sunk in the rectum and that the exstrophied bladder be covered in by skin through plastic operations. His plan was either to separate the ureters from the vesical tumor and suspend them in the rectum through an opening made in that organ, or to form uretero-rectal fistulæ by dividing the tissues separating the ureter and rectum. Roux was led to believe that these operations were anatomical possibilities from a study of cases where the ureters congenitally opened into the rectum and from the numerous instances on record where, after the removal of a vesical stone and the establishment of vesico-rectal fistulæ, the patients were still able to control their liquid evacuations. He refrained from putting these ideas into practice because of his uncertainty as to the relations of the peritoneum and rectum in exstrophy of the bladder.

SMITH,[43] 1878. *Bilateral uretero-colonic anastomosis, extraperitoneal method in two stages; death from uremia immediately after last operation; atrophy of one kidney; inflammatory changes in the other.* Over a quarter of a century elapsed before another attempt was made to unite the ureters and intestinal tract directly. Then Thomas Smith, in 1878, operated on a boy, aged 7, afflicted with exstrophy of the bladder, by a new technique. A bougie was passed up the left ureter and an opening made in left loin; the ureter was then located and inserted into the descending colon. It was held in position by fine carbolized catgut passed through the bowel and through cellular tissue about the ureter. For six days the urine passed with the feces with no unusual irritation of the bowel except that the movements were more watery and frequent than natural. On the ninth day feces and urine passed through the incision in loin. There was later free suppuration in or around the kidney, the abscess opening in the loin at site of wound. Fistulous opening gradually closed. One year after the operation the boy was in good health, no urine escaping from left ureteral orifice.

Second operation fourteen months after first. The right ureter was inserted by the same method into the ascending colon, fine wire sutures being used instead of catgut. The patient became drowsy, and died fifty hours after the operation.

Autopsy.—Pelvis of left kidney distended with clear fluid and the organ reduced to a fibrous condition. The ureter was one and a half inches in length and the uretero-rectal opening was not patent. The right kidney was much enlarged and the capsule was adherent to the cortical substance, which was soft and pliable. The pelvis of this kidney and corresponding ureters were dilated. A small probe could be made to pass through the ureterorectal opening only with great difficulty.

KÜSTER,[36] 1891. *Both ureters in rectum, following removal of bladder; death in five days from peritonitis and renal infection.* In 1891 Küster removed the bladder and prostate from a patient aged 53, for malignant disease. The operation was performed by the perineal and abdominal route. The ureters were cut off from the bladder obliquely, the rectal and ureteral mucosa being united by one series of sutures, and then reinforced by a row of sutures externally. The patient lived five days. The autopsy showed purulent peritonitis and undoubted renal infection. The ureters were not dilated, but the sutures uniting them to the rectum had not held.

CHAPUT,[30] 1892. *Case 1. Uretero-vaginal fistula; right ureter united to rectum; recovery; well after eight years.* September 13, 1892, Chaput operated upon a woman, aged twenty-nine for a uretero-vaginal fistula, resulting from a vaginal hysterectomy. The abdomen was opened and the enlarged right ureter was united to the rectum by a series of

sutures, one set uniting the mucous, the other the serous surfaces. Convalescence was uneventful.

In a personal communication to the author, dated April 3, 1900, Dr. Chaput states that the patient is still alive, although the operation was performed eight years ago. Her health is very satisfactory and there are no signs of renal infection. She has about three liquid evacuations in twenty-four hours.

Case II. Tubercular cystitis; double uretero-colonic anastomosis in two stages; death from uremia after last operation. A woman, aged forty-five years was operated upon November 25, 1892, for a chronic tubercular cystitis which had not yielded to a suprapubic cystotomy. Through an abdominal incision the left ureter, as large as the little finger, was located and sutured into the descending colon by the same method described in Case I. Cure was rapid and complete. Eight watery stools per day. Three months later, March 1, 1893, the right ureter, as large as the thumb, was united to the cecum by the same method. No fever resulted, but the patient became comatose and died the same day. The existing diarrhea was checked. Suppression of urine was the undoubted cause of death. No autopsy was performed.

REIN,[20] 1894. *Exstrophy of the bladder; bilateral ureterorectal anastomosis; death.* Rein, at the International Congress at Rome, 1894, reported the case of a woman, aged twenty, upon whom he had operated for exstrophy of the bladder.

An incision 16 cm. in length was made across the ectopic bladder. The uterus and left adnexa were removed and a bougie introduced into the left ureter. A good-sized drainage-tube was introduced into the rectum and both tubes approximated. An incision a few millimeters in length was made at this point in the rectal wall and a glass drainage-tube, previously passed into the ureter, was carried through this incision into the rectum. An elastic drainage-tube was attached to the tube already in the ureter and carried out through the anus. The artificial uretero-rectal fistula was closed by sutures in two layers. The same operation was performed on the other side. The ectopic bladder was now extirpated and all hemorrhage controlled. A perfect union of the abdominal wall was impossible because of the considerable separation of the ossa pubis and the recti-muscles. The operation consumed two hours and fifty-two minutes. The patient died in a short time.

DUPLAY,[21] 1894. *Case I. Exstrophy of the bladder; both ureters in sigmoid; death from pyelonephritis.* Duplay, in an article on exstrophy of the bladder, speaks of having operated upon a girl aged eight, by implanting the ureters into the sigmoid flexure. The patient died in a few months of pyelonephritis.

Case II. Same as above; death. Mazel (page 483) refers to Duplay's article, and a written communication from Duplay, in which the latter mentions a second girl, aged ten years, operated on by him for exstrophy of the bladder. Both ureters were implanted in the sigmoid flexure with fatal results.

TRENDELENBURG,[18] 1895. *Extirpation of one kidney and bladder; uretero-sigmoidal anastomosis; death from extension of tuberculosis.* Trendelenburg reported a case where the right kidney was extirpated for tuberculosis. The entire bladder, except a small piece in which ended the left ureteral orifice, was also extirpated for extensive tubercular disease. This ureter was implanted in the sigmoid flexure and prevented from slipping out by the attached portion of the bladder. Functionally the operation was a success, but the patient subsequently succumbed to tuberculosis of other organs. (While the ureteral orifice and its mucosa was retained in this case from the method employed in its implantation, the probability is that the end of the ureter sloughed, and the insertion into the bowel in no way differed from those cases of implantation where the ureter was cut off external to the bladder.)

BOARI,[27] 1895. *Vesico-vaginal fistula; left ureter in descending colon; well six months later.* Boari, by means of his anastomotic button, grafted the left ureter into the descending colon in a case of vesico-vaginal fistula, with complete destruction of the urethra. The patient lived, and six months later was in perfect health, passing the urine, partly by the anus and partly by the vagina, every three or four hours, without inconvenience. The operation was made extraperitoneally through a curved incision, reaching from the middle of Poupart's ligament to the anterior superior spine of the ilium. The posterior parietal peritoneum was opened and the colon secured, and after the graft was made was fastened extraperitoneally.

The Boari button is to be used preferably by the extraperitoneal route. It is best described by drawings which are given below. (Figs. 4-9.) A button suitable to the caliber of the ureter should be chosen. The ureter is invaginated upon the tube and tied with silk. Then the movable plate is lowered until it meets the under plate and is held in place by a stylet which passes through the bottom tube. A purse-string suture is passed in the bowel and an opening made just large enough to allow the rectal plates to slip in. The suture is now drawn taut and the stylet removed, and the spring carries the rectum against the ureter.

CASATI,[28] 1895. *Vesical tuberculosis; left uretero-colonic anastomosis; death in thirty-five days of tuberculosis.* Boari reports a case operated upon by E. Casati where the former's anastomotic button was employed for very advanced vesical tuberculosis. The left ureter was grafted into the descending colon with the intention of later making a graft of the right ureter and removing the bladder; but the patient lived but thirty-five days after the operation.

No report is made of the passing of the button or the nature of the rectal discharges. Neither are the post-mortem findings recorded.

CHALOT,[29] 1896. *Cancer of uterus; bilateral uretero-rectal-anastomosis; recovery; living one year after operation.* July 22, 1896, Chalot operated upon a woman, aged 45, for uterine carcinoma with involvement of the broad ligaments. The abdomen was opened in the median line, and the left ureter

FIG. 4.

FIG. 5.

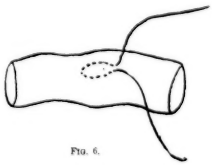

FIG. 6.

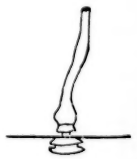

FIG. 7.

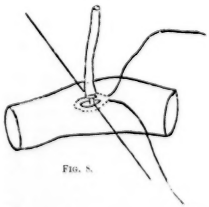

FIG. 8.

FIG. 9.

isolated and ligated. The central end was dilated and implanted into the rectum by means of the Chalot anastomotic button. The ureteral end of the button was retained in place by a circular ligature. The internal iliac artery was then ligated. In the same way the right ureter was anastomosed with the rectum and the right internal iliac artery ligated. The uterus, appendages, and broad ligaments were then removed with but little hemorrhage. Gauze drains were inserted through the vagina and at the lower angle of the abdominal incision. A large tube was left in the rectum. Convalescence was uninterrupted. The gauze was removed gradually, with no leakage of urine. All the urine passed by the anus. For the first month the patient suffered from diarrhea, having three to four stools an hour, but this condition gradually improved.

Chalot's tube for anastomosing the ureters with the intestine is made of nickel and is cone-shaped at each end. It is 3.5 cm. in length and is hollow, its inside diameter measuring from 1/3 to 3 mm., 1½ cm. from one end and 2 cm. from the other is a groove which is large enough to receive a loop of thread, which is tied around the end of the tube. The rectal end of the tube is perforated so as to permit the introduction of a thread by means of which the tube may be withdrawn, later, if desired.

Figs. 10 and 11 show the method of securing the tube to the bowel-wall.

FOWLER,[32] 1896. *Exstrophy of bladder; bilateral utero-rectal anastomosis; recovery; well three and a half years after operation.* Fowler operated upon a boy aged six September 20, 1896, for exstrophy of the bladder. The abdomen was opened in the median line. The posterior layer of the peritoneum was incised, the ureters exposed and cut away at their attachments to the bladder-wall. An incision 7 cm. long was then made in the anterior wall of the rectum through the serous and muscular coats of the bowel. The edges of the incision were retracted and a tongue-shaped flap of mucous membrane with its base directed upward was cut from the mucous membrane in the lower half of the diamond. This tongue-shaped flap was doubled upon itself in an upward direction in such a manner that one-half of its mucous surface presented anteriorly, where it was secured by two catgut sutures. A flap-valve was thus formed, both sides of which were covered with mucous membrane. The ureters were then placed in the incision so that their obliquely-cut ends lay upon the presenting mucous membrane of the flap. The ureters were secured in position by catgut and the flap-valve pushed into the cavity of the rectum, and the wall of the latter closed by catgut sutures. The original wound in the rectal wall was closed with fine silk sutures. The patient promptly recovered. The rectum was tolerant of the urine, which was passed per anum on an average every three hours. Defecation occurred about once daily, and the movement was generally formed.

In a personal communication dated March 14, 1900, three and a half years after the operation, Fowler writes: "In reply to your inquiry concerning the condition of the boy upon whom I performed the operation of implantation of the ureters, I am glad to inform you that he is and has been since the operation in good health. There are no indications of renal infection."

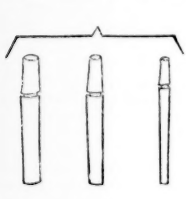

FIG. 10.

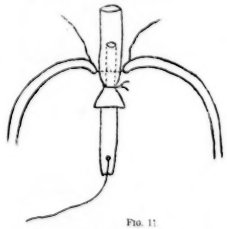

FIG. 11.

TUFFIER ET DUJARNIER,[46] 1896. *Removal of bladder for malignant disease; bilateral uretero-rectal anastomosis; death seven months later; causes unknown.* The operation was performed upon a man, aged forty, who had suffered from frequent micturition and vesical hemorrhages from a malignant growth confined to the bladder-wall. October 20, 1896, the bladder was removed and catheters fastened in the severed ureters. Each ureter was then passed through an incision made on either side of the rectum and fastened outside the anus to forceps to prevent backward displacement. The operation was followed by symptoms of sepsis. Six days after the operation urine passed by way of the hypogastric opening. Two months after the operation the patient was able, by wearing a receptacle for his urine, to attend to his business. The patient died seven months after operation, of unknown causes.

FRITSCH,[34] 1897. *Bilateral uretero-rectal anastomosis; death from pyelonephritis.* Fritsch, in the *Handbuch der Gynäkologie*, mentions, in discussing the question of uretero-rectal implantation, that he has performed the operation on one patient and that death resulted from pyelonephritis. Therefore he condemns the operation.

TUFFIER,[45] 1897. *Uretero-vaginal fistula; left uretero-colonic anastomosis; recovery.* Tuffier implanted the left ureter in the descending colon, the lumbar route being employed. The woman was suffering from a uretero-vaginal fistula, the upper end of the ureter being in such a position as to make a uretero-cystotomy impossible. The woman recovered from the operation, and showed no signs of renal infection.

VON WINIWARTER, 1898. *Removal of bladder; uretero-rectal anastomosis; recovery with fistula.* The operation was performed January 3, 1898. The urethra and prostate were first exposed and separated from the rectum. The pubic bones were separated and the bladder severed from its attachments and removed. The ureters were catheterized and sutured into the antero-lateral walls of the rectum. The catheters were removed in forty-eight hours and urine flowed through the anus. Five weeks after the operation the pains had disappeared and the patient had gained in flesh. Most of the urine escaped from a fistula in the anterior wall of the rectum, causing itching in anal region.

SCHNITZLER,[41] 1898. *Case I. Uretero-vaginal fistula; right uretero-colonic anastomosis; recovery.* The operation was performed for the relief of an uretero-vaginal fistula following a vaginal operation. The right ureter was implanted in the ascending colon. Immediate result satisfactory. Ultimate result not mentioned.

Case II. Vesico-vaginal fistula; bilateral uretero-colonic anastomosis; death in a few days; pyelitis. Operation was performed for the relief of a vesico-vaginal fistula arising from carcinomatous ulceration, the radical removal of the malignant growth being impossible. The right ureter was implanted in the ascending, the left in the descending colon. The patient died in a few days, and on the left side was found a severe pyelitis, which probably existed in some degree before the operation. There was also necrosis of some portions of the mucous membrane of the ascending colon, which came in contact with the urine.

EVANS,[35] 1899. *Absence of right kidney; abscess of Left kidney, which was opened in loin; left uretero-rectal anastomosis; recovery; thirteen months after operation living and well.* Through the kindness of Dr. Evans I am allowed to give an abstract of this interesting, unpublished case. The patient was a man, aged twenty-three, who had had a suprapubic cystotomy July 16, 1898, for chronic purulent cystitis of long standing. Left ureter catheterized; right could not be found. November 28, left kidney opened and large amount of pus evacuated; ureter greatly thickened. February 18, 1899, left ureter was implanted into rectum just below the brim of the pelvis by an extraperitoneal incision. Ureter allowed to project one-half inch into the rectum and united to the bowel by silk and catgut sutures. Gauze drain in each angle of wound. For four days urine did not pass freely through rectum, although water could be made to pass into the rectum by way of the loin. Nine days after operation a small amount of feces escaped through lower angle of incision. Two days later both loin and bladder fistulæ were closed and bowels moved often with watery stools after implantation of ureter. No urine passed by bladder fistula or by penis, showing absence of right kidney. Four months after operation the fistula in the loin reopened and discharged for a number of weeks. Thirteen months after the operation patient is in good health and is working every day. The fistula in the loin has discharged for past five months, and at present leaks only at night and not at all during the day, when bowels move three or four times. There never has been any rectal irritation; suprapubic wound is firmly closed.*

TURETTA, 1899. *Removal of bladder; bilateral uretero-rectal anastomosis with Boari's button; death; autopsy showed suppurative nephritis.* Turetta reported before the Congress of Italian Surgeons the case of a man, aged 23, upon whom he had performed total extirpation of the bladder, with implantation of the ureters into the rectum. For several months the patient had suffered from severe hematuria. Examination revealed a hard growth confined to the bladder wall. March 1, 1899, the bladder was resected through a temporary separation of the os pubis and the ureters anastomosed with the rectum by means of Boari's buttons. The urine passed *per anum* until the third day, when the flow ceased and the urine escaped by the incision. Attempts to seize the ends of the ureters failed. Symptoms of nephritis now supervened and became more and more marked until the death of the patient on the sixteenth day after the operation. The autopsy showed suppurative nephritis; the pyramids contained small abscesses.

PETERS, 1899. *Exstrophy of the bladder; bilateral extraperitoneal uretero-rectal anastomosis; recovery; good health ten months after operation.* Peters exhibited a boy, aged 4½, before the Canadian Medical Association, upon whom he had operated five weeks previously for the cure of exstrophy of the bladder. Two years before he had operated successfully for procidentia recti. In July, 1899, the ureters were implanted into the rectum extraperitoneally, one on either side of the bowel. Good control over the sphincter ani resulted, the patient having evacuations every three hours during the day and every four or five hours during the night.

In a personal communication dated March 30, 1900, Dr. Peters states that the patient is in perfect health ten month-

* Feb. 1, 1901. Patient died about two months ago. Autopsy showed atrophy of right kidney, pyelonephritis of left.

after the operation. Able to retain urine three, four, and five hours during the day and eight hours at night. No eczema about the anus. The ureteral openings appear as two prominent papillæ in the antero-lateral aspect of the rectum, about one-half inch above the internal sphincters. Urine quite normal in quantity and percentage of urea.

WALSHAM, 1899. *Left uretero-colonic anastomosis; ureteral orifice became stenosed, with subsequent destruction of kidney.* Walsham mentions a case seen by him where the end of the left ureter was implanted in the descending colon. The artificial opening became obliterated by cicatricial contraction, with subsequent destruction of the corresponding kidney.

KRAUSE, 1899. *Removal of the bladder for malignant disease; implantation of both ureters into the sigmoid; recovery; well three and one-half months after operation.* The operation was performed upon a patient, aged 17, three and one-half months before the report. For a year he had suffered from a tumor involving the base of the bladder and completely obstructing the left ureter. The bladder was removed by the extraperitoneal route. The peritoneum was opened four times, but immediately closed with catgut sutures. The vesicules seminales were left in place. The ureters were not sutured into the rectum because of the extremely low position of the peritoneal cul-de-sac and the correspondingly extreme traction which would have resulted. They were sutured into a coil of the sigmoid flexure, which was drawn down through an incision in the posterior cul-de-sac. Two tiers of sutures were employed; the result was excellent, the convalescence being afebrile and a gain of ten pounds in weight resulting. He can control his urine for two hours and can rest from five to six hours at night.

In 1897 Krause performed a similar operation on a man with carcinoma and existing pyelitis. Patient lived but a short time and died of pyelonephritis.

BECK, 1899. *Tuberculosis of bladder; bilateral implantation of ureters into sigmoid; recovery; well seven months after the operation.* Beck showed a man before the Chicago Medical Society whose ureters he had implanted in the sigmoid flexure for tubercular disease of the bladder. After the formation of a peritoneal and muscular flap in the gut wall a small opening was made in the mucosa, through which the ureters were drawn one and one-half inches into the bowel; the ureters were then sutured in a groove of the bowel wall. The patient made a good recovery, and presents no evidence of pyelonephritis eight months after the operation. Beck believes that this freedom (?) from infection is due to the fact that the ureter, being left free in the bowel, offers a barrier to ascending infection of the ureter and kidney by doing away with necrosis and the formation of granulation about the mouth of the ureter.*

W. C. WOOD, 1899. *Exstrophy of the bladder; bilateral uretero-rectal implantation; death in two months from pyelonephritis.* Wood showed before the Brooklyn Pathological Society the kidneys of a patient, aged five, upon whom two months previously he had operated for exstrophy of the bladder. The ureters were implanted into the rectum according to the technique advocated by Fowler, with the exception that the implantation was performed higher up in the bowel. The patient died in two months of pyelonephritis.

MARTIN, 1900. *Four cases of uretero-rectal anastomosis with three deaths; operations performed for exstrophy of bladder, tuberculosis of bladder and carcinoma of bladder. Case I.* Exstrophy of the bladder in a boy, aged 14. The right ureter was implanted into the rectum extraperitoneally. A second operation upon the left ureter was a failure. The urine was passed *per rectum* every six hours, independent of fecal matter. At first there were casts in the urine passed *per rectum*. Eighteen months later the boy was perfectly well.

Case II. Tuberculosis of the bladder in a man, aged 30. The bladder was removed and the right ureter implanted in the rectum; the left ureter in the skin. A ureteral catheter was employed. The patient died of shock and suppression of urine twenty-six hours after operation.

Case III. A woman, aged 37, was operated on for carcinoma of the uterus and bladder. The ureters were implanted in the rectum by the Martin method. Urine flowed through the ureteral catheters and the anastomosis was found perfect. Died in four days of peritonitis.

Case IV. The carcinomatous bladder and uterus were removed from a woman, aged fifty-four years, and the ureters implanted in the rectum. The patient died four hours later of shock.

* Feb. 23, 1901. Patient died some weeks ago. Autopsy showed marked bilateral pyelonephritis.

RESUME OF 33 URETERO-INTESTINAL IMPLANTATIONS.

Number of patients operated upon		29
Number of operations		33
Number of operators		22
Conditions for which operations were performed stated in		31
Chronic cystitis		3
Ureter in rectum	1	
Ureter in descending colon	1	
Ureter in ascending colon	1	
Recoveries	2	
Deaths	1	
Cancer of bladder		6
2 ureters in rectum	5	
2 ureters in sigmoid	1	
Deaths	3	
Recoveries	3	
Tuberculosis of bladder		4
1 ureter in sigmoid	1	
2 ureters in sigmoid	1	
1 ureter in descending colon	1	
1 ureter in rectum	1	
Recoveries	3	
Deaths	1	
Exstrophy of the bladder		11
1 ureter in ascending and descending colon	2	
2 ureters in sigmoid	2	
2 ureters in rectum	5	
1 ureter in rectum	2	
Recoveries	6	
Deaths	5	
Uretero-vaginal fistula		3
1 ureter in descending colon	1	
1 ureter in rectum	1	
1 ureter in ascending colon	1	
Recoveries	3	
Vesico-vaginal fistula		2
1 ureter in descending colon	1	
1 ureter in ascending and descending colon	1	
Recoveries	1	
Deaths	1	
Cancer of uterus		2
2 ureters in rectum	2	
Recovery	1	
Death	1	
Sex stated in		27
Males	15	
Females	12	
Age mentioned in		21
Oldest		53
Youngest		4½
Site of implantation noted in		33
Both ureters in rectum		13
Both ureters in sigmoid		4
Ureter in descending colon		6
Ureter in ascending colon		3
Right ureter in rectum		3
Left ureter in rectum		2
Left ureter in sigmoid		1
Both ureters implanted in		18
Primary recoveries, bilateral implantation	10=56 per ct.	
Deaths, bilateral implantation	8=44 per ct.	
Ultimate result not stated, bilateral implantation		1
Subsequent death from pyelonephritis		3
Subsequent death, cause unknown		1
One ureter implanted in		15
Primary recoveries, unilateral implantations	12=80 per ct.	
Death, unilateral implantations	3=20 per ct.	
Anastomatic buttons used in		4
Both ureters implanted in two cases, death		1
One ureter implanted in two cases, recoveries		2
Immediate recoveries, total	22=67 per ct.	
Deaths, immediate, total	11=33 per ct.	
Renal infection noted in		11
Functional result stated in		14
Good functional result		9
Poor functional result		5
Of the 22 recoveries primarily from the operation, ultimate results not mentioned in		1
Failure		1
Died later of tuberculosis of other organs		2
Died seven months later, cause unknown		1
Died later, pyelonephritis		3
Died of uremia subsequent to implantation of other ureter		2
Kidney destroyed by stenosis of uretero-rectal orifice		1

OF THE REMAINING 11 CASES.

1 ureter implanted, well after	6 months.
1 ureter implanted, well after	13 months.
1 ureter implanted, well after	18 months.
1 ureter implanted, well after	2 years.
1 ureter implanted, well after	8 years.
2 ureters implanted, well after	5 weeks.
2 ureters implanted, well after	3½ months.
2 ureters implanted, well after	7 months.
2 ureters implanted, well after	10 months.
2 ureters implanted, well after	1 year.
2 ureters implanted, well after	3½ years.

A critical survey of these thirty-three operations shows the primary mortality, 33 per cent., to be exceedingly high. If to this be added the uncertainty as regards subsequent renal infection in the cases surviving the operation, it must be admitted that uretero-intestinal anastomosis is not an operation of choice.

(To be continued.)

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SATURDAY, MARCH 2, 1901.

DIABETES MELLITUS.

It seems probable that diabetes has long been recognized, although the presence of sugar in the urine, from its sweetish taste, was first detected in the seventeenth century, and it was not until the eighteenth that glucose was isolated. Then followed a careful description of the disease, with the recommendation of an animal diet and exclusion of vegetable food in treatment. Scientific study of the etiology, nature and treatment of diabetes, was, however, not begun before the middle of the nineteenth century, but since then few diseases have had more attention devoted to them, both clinically and experimentally. In an interesting communication, von Noorden[1] discusses some as yet unsettled questions in this connection, and points out the lines along which scientific investigation may profitably be directed. Quite apart from increased thoroughness of clinical study, there is scarcely room for doubt of the increased morbidity and mortality of diabetes.

With regard to the question of etiology, emphasis has been placed upon the influence of alcoholic excess, heredity and race. The especial predisposition of the Jews to diabetes has attracted attention, and it is suggested that their dissemination and admixture with Indo-Germanic blood may have something to do with the more widespread prevalence of the disease.

A satisfactory explanation for the excretion of sugar by the diabetic patient is yet wanting. This has been thought to be due to the presence of an increased amount of sugar in the blood, but it has been shown experimentally that sugar may appear in the urine as the result of certain forms of intoxication, without an excess of sugar in the blood. The latter phenomenon has been attributed to special activity on the part of the kidneys, and the condition has been designated renal diabetes. In addition to glucose, combinations containing it may be present in the blood. In general it is agreed that the sugar of the blood and the urine is derived from carbohydrates, especially hexoses and pentoses, but it has been shown that it may be derived also from certain proteids and from fat.

Among the special metabolic processes peculiar to diabetes are the production and elimination of non-nitrogenous substances belonging to the fatty-acid series, namely, acetone, diacetic acid, and beta-oxybutyric acid. These three are closely related, not only clinically, but also pathologically. When the urine and the expired air contain little acetone, diacetic acid and beta-oxybutyric acid also are as a rule absent. When much acetone is present, diacetic acid likewise will be present; and when there is much of the latter, there will generally also be beta-oxybutyric acid. It seems probable that beta-oxybutyric acid is the parent substance, appearing in the urine only when produced in large amount, or when reduction in the alkalinity of the blood prevents its transformation into diacetic acid. The presence in the blood of the acids named is responsible for the large elimination of ammonia that is observed in cases of marked diabetes. It is not known why the diabetic produces so much beta-oxybutyric acid or diacetic acid, but this is favored by exclusion of the carbohydrates from the diet. The source of the beta-oxybutyric acid is believed to be the proteids and the higher fatty acids. The most important fact in this connection is that diabetic coma is almost always associated with the presence of large amounts of beta-oxybutyric acid or its derivatives in the blood; but whether the coma is dependent upon the acid or upon an intoxication peculiar and specific to diabetes, or to both of these influences is, as yet, a matter for discussion.

It is no longer believed that the general metabolism is increased in cases of diabetes, with resulting emaciation and increased demand for food. The oxidation processes are not greater than in a healthy individual under normal conditions, and the emaciation is due to loss through the urine, as sugar, of a part of the energy supplied by the food ingested. As a rule, further, the proteid metabolism of the diabetic is normal. Exceptionally, in the terminal stage, before the onset of diabetic coma, toxogenic proteid metabolism may occur in accordance with the character of the diet. The diabetic exhibits a tendency to suffer from loss of lime, and this is thought to be due to the presence of organic acids in the blood. Absorption of food from the stomach and the intestines, however, pursues a normal course. In some cases, on the other hand, absorption of fat and proteids is impaired. Under such circumstances it is probable that the secretion of pancreatic juice is interfered with, and, clinically, administration of pancreatic extract has proved serviceable.

There is yet much to learn in connection with the pathogenesis of diabetes. It is known that lesions of the floor of the fourth ventricle, intoxication with phloridzin, and total destruction or extirpation of the pancreas, may, among other things, give rise to the manifestations of the disease. Clinically, diabetes may be considered a derangement of metabolism of varying degree, and with corresponding variations in the intensity of the symptoms to which this gives rise. In the line of treatment no great advance has been made beyond that of rigid dietetic individualization. There is no effective medicinal remedy, although opium and its alkaloids, as well as antipyrin, salicylic acid and jambul, are capable of diminishing the elimination of sugar, but

1. Berliner klin. Woch., 1900, Nos. 49 and 50.

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their effect is uncertain and transitory, and the injury resulting from their long-continued use is greater than the temporary benefit.

RECENT VIEWS CONCERNING THE GENESIS OF CARCINOMA.

Ribbert's opinions as to the early participation of the underlying connective tissue in the development of carcinoma have been the subject of a severe arraignment by Lohmer.[1] For a considerable period, chiefly through the work of Thiersch and Waldeyer, the origin as well as the further growth of carcinoma was held to be directly due to the proliferation of the epithelium into the deeper tissues. Ribbert and his pupils diverged from this conception in that they traced the origin of the tumor to a disconnection of the epithelial cells from their associates by processes in the subepithelial connective tissue; following such dislocations, the loosened cells proliferated to form a tumor. Such severances are, according to Ribbert, produced by the growth of the connective tissue into the epithelium, by the lengthening of the papillæ of the corium so that the interpapillary epithelial pegs become correspondingly drawn out and ultimately separated, and by the pushing outward of the epithelium *en masse* by the increased amount of tissue in the corium. There is no doubt that Ribbert's theories have been of great service in stimulating study of the dynamics of the process; nor is there any question but that they minimize, to insignificance, the important change in the epithelium whereby the cells proliferate and undergo the marked morphologic alterations that Hauser and others believe to be the visible signs of altered biologic conditions. Lohmer, in a careful study of serial sections of eight carcinomas of the lip, of carcinomas that originated in sebaceous glands and hair follicles, in the mammary gland, penis, forehead, nose, tongue, pancreas, and different parts of the gastro-intestinal tract, has failed entirely to find adequate histologic evidence to support the views of Ribbert. He was able to prove that certain cases originated solely by the proliferation of the epithelium inward, that elongation of the interpapillary epithelium in many cases was absent, that on the border of glandular carcinomas, the new glands are produced by the proliferation of pre-existing glands, and, what is still more interesting, he was able to find in some carcinomas that two or more entirely independent foci of proliferation were present. He is forced to the conclusion that we must return to the former views of Thiersch and Waldeyer, that the multiplication of the epithelial cells is alone responsible for these growths.

The reasons for the increased proliferative energy of the cells whose end product is a tumor have been theoretically assumed, by Brosch,[2] to be due to a double stimulus. He believes that the initiatory changes are reparative in nature, and that when these are unable to restore the damaged parts the added energy causes them to multiply still further and to produce such an amount of new tissue that tumors are formed. He distinguishes two forms of proliferation, that called forth in the response of the tissues to injury—essentially teleologic—and such as occurs in tumors. The proliferation of cells in consequence of physiologic waste and wear, he would designate by the name regeneration. Upon this assumption he has made careful re-examination of Lowenthal's tables[3] and finds that in many cases injury to parts in which reparative processes were already commenced has caused tumors; the second injury has been sufficient to supply the stimulus necessary to cause proliferation that far oversteps the requirements. Many cases of carcinoma that develop in the cicatrices of burns belong to this category. In some cases in which a positive history of previous trauma was lacking, the defect was filled by careful inquiry into the occupation and habits of the individual. He quite correctly calls attention to the impossibility of obtaining positive information about the traumatic injuries to the surface of the gastro-intestinal canal—situations where trivial harm is fully as important as extensive injuries upon the outer surface.

There is much that is interesting and attractive about the theoretical axiom erected by Brosch of trauma-proliferation, trauma-tumor, and one of the most valuable supports to this view is afforded by the occurrence of malignant growths following trauma of benign tumors. He attributes the repeated failure of previous investigators to produce tumors by implantation experiments to the absence of certain factors in the causal chain, and to the necessity of experimentation upon a productive process that has already been established. Upon this basis he bruised the skin of the back of a guinea-pig and, after a granulating wound had formed, rubbed it at intervals with a solution of paraffin in xylol; after some weeks a very characteristic ulcer was produced, resembling the cerebral convolutions in miniature; the elevations in the floor of the ulcer were caused by an atypical epithelial growth that in all respects resembled an early carcinoma. The experiments have not as yet been conducted to the end that regional and general metastatic growths are reported. It will be noted that these two important contributions to the subject of tumor genesis do not necessarily conflict with the parasite theories of tumors.

1. Ziegler's Beitraege, 1900, xxviii, 372.
2. Virchow's Archiv, 1900, clxii, 32.
3. Archiv f. klin. Chir., Bd. xlix.

THE BOSTON MEDICAL LIBRARY.

After twenty-five years of untiring effort the Boston Medical Library Association, originally composed of six physicians, on January 17 dedicated its new and complete building by interesting and appropriate exercises. A series of short addresses, admirably suited to the time and place, were given by men from Boston, New York, Philadelphia and Baltimore. Any one really interested in the question of medical libraries can

derive much pleasure and profit from reading the various addresses.

The Boston Medical Library is the fourth in size in the country, being exceeded by that in the Surgeon-General's office in Washington, that of the College of Physicians of Philadelphia, and that of the Academy of Medicine in New York. It contains about 33,000 volumes and 30,000 pamphlets; it receives about 500 periodicals. To adequately house a growing collection of this kind and to furnish suitable and inviting facilities for its daily use require a commodious, specially constructed building; and the Boston Medical Library now has a fitting domicile in a chaste and appropriate building on one of the most attractive streets, "commanding a view of exceeding beauty." For erecting this building $73,000 were collected by subscription; the total cost is $140,000; the association has $25,000 in land, so that there is a balance of debt of $42,000. It seems that the money has been secured wholly through the medical profession of Boston. The new building is planned to be of use to the profession and the community in other ways than as a library. A directory for nurses is conducted within it; and by an admirable foresight, which it is hoped may come into play in connection with similar undertakings elsewhere, suitable halls for the meetings of various medical societies have been added. Portraits of past worthies ornament the walls, and the memory of Oliver Wendell Holmes is to be kept green by naming the principal reading room Holmes Hall; this room contains many Holmes mementoes. It is pleasant to note that the amenities of the social side of professional life have been so well cared for as to provide smoking room and supper room. Indeed, it is proposed and was urged by some of the speakers to enlarge the scope of the functions of the library so as to include those of a society or academy, making the institution similar to the Academy of Medicine in New York and the College of Physicians in Philadelphia. This subject is certainly an important one; its treatment in Boston will be watched with great interest, and it should receive a most careful consideration wherever plans for the benefit of the medical profession and for the advancement of medical knowledge are being matured.

The Boston Medical Library is especially indebted for its great progress to one man, Dr. James R. Chadwick, the librarian, whom Dr. Oliver Wendell Holmes described as the "untiring, imperturbable, tenacious, irrepressible, all-subduing agitator, who neither rested nor let others rest until the success of the library project was assured." Having pursued a cherished purpose for a quarter of a century the felicitations offered Dr. Chadwick at the dedicatory exercises will be echoed wherever interest in medicine lives.

Thanks to Dr. John S. Billings and the Index Catalogue, bibliographic research has been rendered comparatively easy and the scope of medical research greatly extended. The Index Catalogue has helped to create a demand for books and especially for periodicals. In the words of Osler, such men as Billings and Chadwick, "loving books partly for their contents, partly for the sake of the authors, they not alone keep alive the sentiment of historical continuity in the profession, but they are the men who make possible such gatherings" as the one in Boston the other evening. More men of this class are needed among us. When will the Billings and the Chadwick of some of the large cities west of the Alleghenies arise, in Chicago, in St. Louis, and elsewhere?

THE OPEN-AIR TREATMENT OF PULMONARY TUBERCULOSIS.

The knowledge that pure air is a potent agent in the cure, as well as in the prevention, of pulmonary tuberculosis is not a discovery of recent date, but it is only within the last quarter of the nineteenth century that the principle has been systematically applied. The fact must never be lost sight of that the tubercle bacillus is not the sole, though withal the specific, etiologic factor in the development of tuberculosis. The nebulous condition comprehended in the designation "susceptibility" constitutes only a less important factor. This may be inherited or acquired. It is best counteracted by hygienic measures and by improvement in the general nutrition; and these ends are best attained through a life in the open air and suitable dietetic regulations. It has been thought in the past that the first of these objects especially could be secured only at certain altitudes above sea-level and under certain meteorologic conditions present only in some localities; but the majority of sufferers from tuberculosis are unable for obvious reasons to leave their homes and assume the expense that change of residence necessarily entails. Fortunately for those who can not seek the desired climate, it is possible to provide them at home with many of its conditions, and the principal of which are purity of air and sunshine. These prophylactic measures are applicable also in the treatment of developed tuberculosis, and the success with which they have been credited commends their adoption in the largest number of cases.

Of the more general appreciation of the utility of the open-air treatment of pulmonary tuberculosis, evidence is afforded by the activity going on on many sides in providing means for its employment in the case of those unable from their own resources to secure its benefits. Governments and states, and other public bodies, are at present vying with one another in the laudable endeavor to make conditions easy for even the poorest tuberculous patient to avail himself of the advantages of the open-air treatment. Thus, in Pennsylvania a plan has recently been proposed by the forestry commisioner, Dr. J. T. Rothrock, having in contemplation the establishment of suitably located camps on the various forest reservations of the state, where tuberculous patients unable to provide themselves with a change

of climate may spend several months in the year living in the open air. The first of these camps is to be established on a reservation in Clinton County, at an altitude of 2000 feet above sea-level, and having an area of 45,000 acres. Here it is proposed to erect large tents, with permanent foundations and anchorage, in order that they shall be as nearly as possible storm-proof. Each tent is to be provided with a heavy wooden floor, and separated by a distance of 15 feet from other tents. Along the front a covered wooden platform raised from the ground will be erected, so that the invalids need not be deprived of exercise on rainy days. The state is not to to be asked to contribute any money for the enterprise, as enough funds have been subscribed to meet the necessary outlay. The patients will be expected to provide their own means of subsistence. They will be required to adhere rigidly to the fish and game laws, and all laws for the preservation of forests, including precautions in the use of fire. Should the plan be successful, a second camp will be established in Dauphin County, overlooking the Lykens Valley, at an elevation of 1400 feet. Ultimately it is hoped to establish similar camps on every healthy forest reservation of the state.

The plan outlined is one to be commended. It is worthy of imitation, and on its merits is deserving of success. It will provide the means, otherwise unattainable, for restoring to health and usefulness a considerable number of victims of a disease recovery from which is yearly becoming more hopeful. Pulmonary tuberculosis should no longer be designated "consumption," as it is merely one of a number of acute infectious diseases capable of prevention, amenable to intelligent treatment, and susceptible of cure.

ANTIVIVISECTIONISTS AND MISREPRESENTATION.

Dr. Keen's letter, published in our last issue, ought to give a quietus—but it probably will not—to the blatant individuals who, with all their self-righteousness, have, as he shows, descended to the meanest arts of misrepresentation. The antivivisectionists have had their say uncontradicted so long that they apparently felt that their license to misrepresent was unlimited, and that they did not need to respect the ordinary rules of morality, more especially the ninth commandment. The welfare of the brute creation is their holy cause, judging from their average literature, but their diversion into philanthropy by raising the bogey of human vivisection has resulted disastrously. Dr. Keen certainly dissects their statements unsparingly, supporting by the most positive facts his charges of indefiniteness and garbling in their evidence before the Senate committee. Whatever may have been the personal responsibility of the president of the humane society for the facts as shown up by Dr. Keen, he ought to feel deeply humiliated at the exposure he has thus brought upon himself and the society he represents. It will stand on record, however, and no amount of abuse or further falsifying will alter or obscure the evidence of their disreputable methods. It is a pity that the cause of humanity to the lower creatures should be so encumbered with extremists who see nothing beyond the immediate objects of their solicitude, and unscrupulous advocates who do not hesitate to bear false witness against their neighbors. The medical profession is the humane one *par excellence*, but its first regards are for the welfare of humanity and it does not exalt the welfare of the brute over that of mankind.

THE DUTY OF THE PHYSICIAN TO THE STATE.

The recent utterance of a Philadelphia judge to the effect that it would be better that a patient should die rather than that a physician should neglect a judicial summons, has stirred up the lawyers as well as the doctors. The physician's standpoint has already been given editorially in THE JOURNAL,[1] but it may be of interest to note how it is viewed by the legal profession. The *New Orleans Times-Democrat* has taken the trouble to obtain the opinion of a number of leading members of the bar and judges upon the course of the judge, and their unanimity in condemnation of the opinion is striking. The expressions, "unreasonable and arbitrary," "not ruled by the ordinary law of common sense," "absurd," "inhuman," "brutal in its effects," are some indications of how the judge's action and statements are appreciated by his legal brethren. If he is at all sensitive to public opinion he will not be likely to repeat his action, which one can hardly believe was prompted by any deliberate consideration of the facts. Judges, however, are the men who, more than others, should guard their speech and action from any suspicion of inconsiderateness, and if they make mistakes such as that of this Philadelphia jurist, must suffer for it accordingly in public and professional estimation.

THE X-RAY IN QUACKERY.

It is a little remarkable that so striking a discovery, and one that impresses itself so strongly on the popular imagination as does the x-ray should have been left so long unutilized by the quack. This perhaps is due in part to the fact that some knowledge of the scientific side of electricity is supposed to be required, the Crookes' tubes and other apparatus being a little above the intelligence of the average charlatan, and in part to the fact that the regular profession has progressed so rapidly in discovering its remedial and diagnostic utilities that the quacks could not well keep up to them. This state of things, however, can not be expected to last, and now we have advertising specialists proclaiming the special advantages of the x-ray apparatus in their hands for modest females, enabling them to be examined without disrobing or otherwise exposing themselves. A comic paper in the early days of the x-rays contained a picture of a couple of skeletons, one sitting in the other's lap, worked up with all the expression of which these ground plans of humanity "far too naked to be shamed," are capable by the limner's art, but the aforesaid specialist's particular method of utilizing Roentgen's discovery strikes us as novel and entertaining. Still, perhaps the wonder is that it had not been thought of before, for the buzz and the blue flames with brass and glass accessories would go far to create

1. February 9, p. 387.

the mental impressions desired by the quack, and the unquestioned scientific associations of the methods would help to increase his victim's confidence. We may probably expect to hear more from time to time of this discovery as employed as an adjunct to quackery, for which in several respects it has a peculiarly happy adaptability.

MEDICAL ANARCHY IN TEXAS.

The fact that a Texas decision made all diplomas of whatever character qualifications for practice, has already been noticed in THE JOURNAL. This places Texas in about the lowest grade among the states, but it seems still lower depths can be reached. The *Texas Medical News* for January publishes a letter, received by a medical student in Galveston, in which the writer says he has a friend on one of the state boards of medical examiners who informs him "that one of the other state boards is clandestinely advertising for applicants for license and assuring them of same if they will only appear before said board. And because of this, this friend of mine says to me: 'You offer license to any worthy and competent young man that you may find and I will furnish same.' So, doctor, if you desire a permanent state license for the practice of medicine and are willing to pay $25 for them, why, you can write me." The writer goes on to say that the offer is "no humbug, but good goods," that he is a regular practicing physician, etc., and to ask that it be treated confidentially and if a license is not wanted to have nothing said about it. As a commentary the *Texas Medical News* reproduces a clipping taken from the *Dallas News* of a recent date, giving an account of twenty-seven young medical students from a Memphis college, all Texans, passing the district medical examiners in Texarkana, some of whom returned to finish their studies while others proceeded at once to their homes to hang out their shingles without further preliminaries. A diploma-mill of the Armstrong type has heretofore been our ideal of the extreme of degradation of medical qualifications, but a district examining board of Texas, appointed by the district judges, selling licenses to practice at $15 to $20 a piece, goes it one better. Between the quacks and their legal friends and sponsors there would seem to have been, up to date, pretty nearly medical anarchy in Texas. The medical practice act just passed (see Medical News column) was certainly badly needed.

SAN FRANCISCO AND THE PLAGUE INVESTIGATION.

THE JOURNAL has referred to the plague in San Francisco on several occasions, and some of our readers may think we are too insistent in expressing our views in regard to what may seem of local interest. An apology is not needed, however, as the question is one not only of national but of world-wide importance. There has been much opposition to the efforts of the Government representatives—those connected with the U. S. Marine-Hospital Service—by the newspapers of San Francisco and, we are sorry to say, by a few medical men, and the Government decided to send a commission to investigate and report on the conditions found. The men selected for this commission are those whose ability, honesty, and scientific judgment are above criticism, representing three great medical centers, and, moreover, well known to the profession generally throughout the country. Their testimony will be held conclusive, whatever their verdict may be. Of the members of the commission, Drs. Barker of Chicago, and Flexner of Philadelphia, have already made a study of the plague in the Orient, having been sent to Hongkong and Manila for the special purpose of studying the diseases there prevalent. Their well-known scientific attainments made them especially prominent and no better selection could have been made by the Secretary of the Treasury. Dr. Novy of Ann Arbor, the third member, has long been one of the leading authorities on bacteria and toxins in this country, and his opinion will carry equal weight. According to reports, the members of the commission have already attended the autopsies of not less than six fatal cases of plague that have occurred since their arrival on the Pacific Coast, and one of these, it is further stated, was under observation by them four days before death. We also learn that for a short time it was feared one of the members of the commission had been infected from these cases, but this has fortunately turned out not to be a fact. Thus far the members have neither collectively nor individually given utterance to any data or opinions publicly or privately, but the above data were obtained from other reliable sources. The report, when it appears, will settle the question as to the existence of plague in California.

THE TOXICITY OF NORMAL URINE.

The significance of reports as to the toxicity of the urine in the presence of various morbid states will be great or little accordingly as the urine may possess toxic properties or not under conditions of apparent health. Clinicians have at different times sought to estimate the gravity of a number of diseases from a study of the toxicity of the urine, although it has been pointed out that normal urine also may be capable of injurious effects. In explanation of the latter, it has been suggested that they may be due to suspended solid elements, to the products of fermentation and to the presence of potassium salts. With the object of determining the degree of toxicity possessed by normal urine, as well as the nature of the responsible substance or substances, Dresbach[1] collected the urine, usually to the amount of four liters, from healthy adults, who were not and never had been users of tobacco, and prepared an extract, which was injected in concentrated watery solution into white mice in doses varying from 3 to 7 minims. The smaller amounts gave rise to somnolence, spasmodic movements and clonic convulsions, irregularity and difficulty in breathing, exophthalmos, dilatation of the arterioles, exaggeration followed by abolition of the reflexes, while large amounts caused death. On evaporating the extract to dryness, considerable residue remained, but this could easily be destroyed by heat, leaving practically no ash. It was thus shown that no mineral matter was present. Tests for xanthin compounds likewise yielded negative results. It is pointed out that the results produced could not have been due to potassium salts or to any organic substance usually included in the list of substances in normal urine.

1. Jour. of Exp. Med., Dec. 15, 1900, p. 215.

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THE HEREDITARY TRANSMISSION OF NEUROSES.

However heredity may act in the transmission of certain textural or nutritional disorders, or proclivities thereto, there can be no doubt of the fact that it does so act. It is true that disease may be conveyed directly from the mother to the fetus *in utero* through the placental circulation, but such a manifestation is in no sense an expression of hereditary transmission. Clinically speaking, it is not disease per se that is transmitted by heredity, but rather the morbid condition of tissue that either underlies or predisposes to disease—and this, it is to be presumed, is specific in the individual instance. In no class of affections is the influence of heredity as an etiologic factor more conspicuous than in the diseases of the nervous system, and especially the psychoses and neuroses; and this fact points the way to certain prophylactic possibilities. Thus, epilepsy, particularly if of the so-called idiopathic type, is often of distinctly hereditary origin, and the adoption of rational and practicable measures looking to the restriction of marriages and procreation by the unfortunate victims of this disease would aid materially in limiting its prevalence. Such measures must depend for their enforcement largely on the intelligence and self-control of the community rather than on arbitrary and rigorous legislation. An instance illustrating the pernicious influence on the offspring of epilepsy in the parent is cited by Bourneville and Poulard in *Progrès Médical* for September 29. A young married man in whom, without obvious cause, epileptic seizures began in the 30th year, begot eight children, two of whom died of athrepsia and one of cholera infantum. Of the remaining five, one was the subject of petit mal and of violent outbreaks of bad temper; another was the subject of grand mal, with hallucinations of vision and disturbances of sleep; and one was neurotic and suffered from night-terrors. From a consideration of cases like the foregoing, which are by no means isolated, it is not surprising that the authors reach the conclusion that marriage on the part of the subjects of epilepsy and epileptoid psychoses and neuroses should be forbidden or strongly discouraged.

THE INFLUENCE OF BACTERIA IN THROMBOSIS.

Thrombosis, especially of veins, is a not infrequent complication of infectious diseases such as pneumonia, typhoid fever, puerperal and other pyemic diseases. Thrombosis is also seen in so-called marantic states, in which death is often hastened by terminal infections. Welch, in his article on "Venous Thrombosis in Cardiac Thrombosis,"[1] states that micro-organisms have been found in a large number of thrombi in cases examined in his laboratory. There seems to be but little experimental evidence in favor of the infectious nature of thrombosis under these conditions. The recent work of Jakowski,[2] however, is quite suggestive. He injected sterile cultures or solutions of toxins of typhoid and of diphtheria bacilli into the circulatory blood of rabbits and guinea-pigs. After the injection a rubber band was placed around an extremity or an ear for one hour and then removed. Suitable control experiments were made and the animals killed twenty-four to seventy-two hours after the injection. Thrombi were not found in the control experiments in which bacteria or toxins were injected without compression of the vessels or in which compression was made without injection. In those experiments in which injection and compression were made clots were found constantly after the introduction of typhoid bacilli, but not so definitely after injection of typhoid toxin; living diphtheria bacilli were injected in these cases and in two thrombi were found after compression, but diphtheria toxin gave negative results. In a previous set of experiments with bacillus coli communis thrombi developed quite freely. Presumably the bacteria injected become implanted on the intima at the site of the compression, and multiplying they produce toxins that lead to the precipitation of fibrin. When toxins alone are injected the dilution becomes so great that they have no effect. To what extent these results are applicable to human pathology is uncertain, but surely they are suggestive. The exact manner in which bacteria induce thrombus formation will remain unknown until the chemistry and physics of coagulation are understood more clearly than now.

1. Trans. Am. Assn. of Phys., 1900, xiv.
2. Centralbl. f. Bact., 1900, xxviii, 801-809.

Medical News.

CALIFORNIA.

An osteopath of Santa Cruz, has been released from jail on a bond of $500, on condition that he leave the state.

The medical bill has been passed by the senate and will now, unless unforeseen contingencies arise, become a law.

The health bill, which appropriates $100,000 as an emergency fund to be at the disposal of the governor and State Board of Health, to be used in case of emergency, has passed both the house and senate and will become a law.

Mary's Help Hospital is to be built on a large plat of ground on Guerrero street, San Francisco. The building will be for the exclusive use of women and children. The late Mrs. Kate Johnston left a bequest of $250,000 for the erection, equipment and maintenance of the hospital.

DELAWARE.

The Delaware State Hospital, at Farnhurst, has been granted an appropriation of $20,000 to cover the deficiency of $17,000 reported by the trustees and to provide for current unpaid bills.

Bills have been read and referred in the house of representatives, establishing a bacteriologic and pathologic laboratory at Delaware College, and extending the powers of the State Board of Health.

The Delaware Hospital, Wilmington, will open its new building in a short time. Its trustees announce that they have raised $21,657 of the $39,600 required to erect and equip the building, and make an appeal to the people of the state to contribute the $18,000 deficit, that the hospital may be free from debt when its new building is opened.

An amendment to the laws governing the admission and practice of physicians has been introduced by Senator Abbott, providing that whenever a physician who is a resident of the state and who was duly qualified to vote for representatives in the general assembly at the last general election prior to his application shall apply to the State Board of Medical Examiners for a certificate, it shall grant it without examination upon his presenting to the board a diploma from a reputable medical college, and on satisfactory proof that he had been in active practice of his profession at least ten years in any other state of the United States.

ILLINOIS.

The Rockford City Council has decided that physicians charge too much and so has cut down bills presented to it, from 27 to 40 per cent.

Consumption has decreased in the state penitentiary at Joliet, so that, while in 1895 thirty-nine deaths were reported

as due to this disease, in 1900 only eight occurred. This appears to be due directly to the segregation of tuberculous patients.

A state sanatorium for tuberculosis is provided for in a bill recently introduced in the lower house. The bill was framed by Dr. John A. Robison, Chicago, and is endorsed by the Illinois State Medical Society, the Illinois Society for the Prevention of Consumption, and the State Board of Health. It appropriates $200,000 for the purchase of a site, erection of a building, and maintenance for one year.

Chicago.

Chicago's mortality for the week ended February 23 was 511, or an annual death-rate per 1000 of 15.68. Of the deaths, 172 were due to diseases of the respiratory system, and 26 to violence.

Dr. S. Cecil Stanton has just received an appointment of contract surgeon in the United States Army, to be stationed in Chicago. Dr. Stanton has been doing work in connection with the government's recruiting station here for some time.

The indictments against Dr. August M. Unger, in connection with the life insurance case of Miss Marie Defenbach, which he sought to have quashed, will stand, as Judge Holdom, on February 21, overruled the motions to quash in each of nine counts in each of three indictments.

The smallpox situation is improving; 10 new cases were discovered last week as against 17 the week before. The total up to February 23 is 27, with no death; 13 have been discharged from the isolation hospital, and 33 remain under treatment. The prompt discovery and isolation of cases and the wholesale vaccination of the exposed neighborhoods are relied upon to keep the disease under control.

The health department has issued a warning that debilitating causes of all kinds—alcoholism especially—predispose to attacks of pneumonia. Exposure to sudden changes of temperature should be avoided; the feet kept dry and warm and the throat and chest well protected; fasting rather than indulgence should be observed. The higher the bodily condition the less favorable is the growth and virulence of the pneumonia germ. The laboratory examinations show a notable decrease in the findings of the influenza bacillus, indicating that the disease is declining; on the other hand, the organism of pneumonia is found in increasing numbers and there is a strong probability that, with the usually trying March weather, there will be a marked increase in the prevalence of this malady.

INDIANA.

St. Margaret's Hospital Staff was organized February 15, with the following officers: Dr. James T. Clark, president; Dr. Cyrus W. Campbell, vice-president, and Dr. H. Edgar Shanes, secretary.

The faith curers sustained a serious reverse February 19, when the senate voted to accept a favorable report on Senator Wood's bill requiring believers in faith cure to call medical aid in the illness of children and dependents. The bill makes it a felony to withhold medical aid from children and other dependents when such dependents die for the lack of medical aid.

KANSAS.

Dr. Ralph C. Henderson, Erie, has been appointed pension-examining surgeon at that place.

Sherman County has quarantined against Norton, Almena, Sharon Springs and all other towns infected with smallpox, until further orders.

Dr. Irwin E. Bennett, U. S. A., formerly of Leavenworth, has been promoted to a captaincy in the medical department. He is now on duty with the United States forces in China.

MICHIGAN.

The Lansing Hospital Staff has been organized with Dr. Rush J. Shank, president, and Dr. L. Anna Ballard, secretary.

Dr. Harry B. Britton, Ypsilanti, has been appointed a member of the board of medical pension examiners, to succeed Dr. Frank K. Owen.

MINNESOTA.

Dr. George H. Overholt, Kenyon, has been appointed health officer and placed in charge of the smallpox cases in Holden.

Daily inspection of the public schools of Minneapolis has been inaugurated, and a staff of fifty medical inspectors has been appointed to carry on the work.

Dr. Geo. D. Haggard, Minneapolis, Minn., has presented a number of wax and plaster models of smallpox eruptions to the medical department of the University of Minnesota.

After the Quacks.—According to the *Northwestern Lancet*, the Minnesota State Board of Medical Examiners has recently done good work in Minneapolis, in suppressing quackery. Two local advertising quacks have been obliged to discontinue their practice, at least under their own names. A third, not a physician, but representing himself as one, has been bound over to the grand jury.

Proposed Legislation.—A bill endorsed by the state medical society has been introduced, providing for a state board of medical examiners of twelve members, to be appointed by the governor from the different schools of medicine. The board can dispense with examinations in cases of practitioners authorized to practice in other states, or their payment of a $50 fee, when moving into Minnesota, provided said states demand qualifications of equal grade with Minnesota and extend the same privileges to practitioners holding Minnesota licenses.

NEW JERSEY.

Dr. Paul Mecroy, of Camden, has been appointed physician and surgeon of the Pennsylvania Railroad, to succeed Dr. Dowling Benjamin.

Christ Hospital's council and staff gave a dinner to Dr. John A. Robinson, retiring house-surgeon, in the sun parlors of the hospital, Jersey City, February 14.

The State Board of Health is forcing New York physicians who practice on the west side of the North River, to register and obtain license to practice in New Jersey.

NEW YORK.

Dr. Clarence V. Gray has been appointed health officer of Elba.

Dr. Harriet M. Watson has been appointed resident physician at the Albion House of Refuge.

The Binghamton health board has passed a resolution that houses where typhoid fever or measles exist shall not hereafter be placarded.

A bill has been introduced in the Assembly to provide for sending indigent persons requiring medical attention to the nearest hospital approved by the State Board of Charities.

Dr. Patrick J. Barrett, Utica, has been placed in charge of the isolation hospital, and Dr. Fred J. Douglas has been appointed city health officer vice Dr. Wallace Clarke.

The bill to abolish the State Board of Health, and substitute a single commissioner, is now before the governor. The commissioner is to be appointed by the governor at a salary of $3500.

Dr. Charles H. Andrews, Bergen, has been promoted to captain in the medical department of the army, and appointed a member of the examining board at San Francisco to examine volunteers preliminary to muster-out.

Regulation of Sale of Poisons.—A new state law places greater restrictions on the sale of poisons than were ever specified by any other measure. No substance which, in the words of the law, "according to standard works on medicine or materia medica, is liable to be destructive to human life in quantities of 60 grains or less, shall be sold at retail or furnished without being labeled with the name of the article and the word 'poison' and the name and place of business of the seller plainly printed in red ink." A record must be kept of the more dangerous poisons, as arsenic, cyanid of potassium, hydrocyanic acid, cocain, morphin, strychnin, and all other vegetable alkaloids and their salts. A complete record, including the name of the purchaser, his address, the amount of poison sold and date of sale, must be kept where it can be inspected at any time by the proper authorities, and must be preserved for five years.

Buffalo.

Dr. Nelson G. Russell has been selected assistant surgeon of the 65th Regiment.

The board of health has prepared an ordinance against expectoration in cars and public places, and also one providing that bottles used for milk shall not be used for other purposes.

The department of health report for January shows the death-rate per 1000 to be 18.08. Of the 531 deaths, 83 were from communicable diseases. The total deaths for January were 531, as compared with 437 in January 1900.

New Consumption Hospital.—Ground has been broken for the consumption hospital on the Erie County Almshouse grounds, which is to replace the former structure burned last March. The cost of the building is to be $50,000.

The ninth annual report of the Charity Eye, Ear and Throat Hospital of Erie County shows 1983 new cases treated during the year. The hospital authorities are well pleased with the workings of the new law which makes it a misdemeanor to obtain treatment under false pretenses.

New York City.

Dr. Edith B. Blackwell has been appointed resident physician and teacher of physiology in the State Normal School at Greensboro, N. C.

The New York Skin and Cancer Hospital has received a second donation of $5000 from Miss Emily S. Watson, New York, to endow a free bed.

The Montefiore Home for Chronic Invalids has changed its name to the Montefiore Hospital, because the latter name more accurately describes the function of the institution, whereas its former title had led many persons to suppose that it was a permanent residence for invalids.

Clinical Lectures on Syphilis.—The New York Skin and Cancer Hospital announces a course of clinical lectures on Syphilis, by members of the visiting and consulting staffs, on Wednesdays during March and April, and May 1. The lecturers are Drs. L. Duncan Bulkley, Abraham Jacobi, D. Bryson Delavan, David Webster, Edward D. Fisher, Edward G. Janeway, and Willy Meyer. These lectures are free to members of the medical profession on presentation of their professional cards.

Smallpox.—During the past week between 20 and 30 new cases of smallpox have been reported from widely separated sections of the city, 13 in one day; and 3 with the disease far advanced, walked into the Harlem Hospital in the course of three hours. The Health Department has issued a statement calling the attention of the public to the fact that the disease is not abating, and that they are now only vaccinating about 30 persons daily whereas, a few weeks ago, the daily average was 2000.

OHIO.

The Arcadia Board of Health has been organized with Drs. Madison G. Baldwin and Robert B. Taylor as its medical members.

Dr. Frederick C. Jackson, formerly of Columbus, now an acting-assistant surgeon in the Army, on duty in the Philippines, has been made captain and assistant surgeon of volunteers.

A fire broke out in the kitchen of the Cincinnati Hospital, February 19, and for a time threatened the destruction of the entire building. In the attempt to put it out several of the hospital employees were severely burned.

The Divine Healer.—The case of "Dr." Yaeger, which, as mentioned in THE JOURNAL of last week, was continued for a week, came up in Squire Winkler's court, Cincinnati, February 23. She was bound over to await the action of the grand jury for practising medicine without a license, and was released on her own recognizance of $500.

PENNSYLVANIA.

Smallpox has been reported during the last week in eight localities in the state.

Measles is prevalent in Cambridge Springs, and up to this time about one hundred cases have been reported.

New Hospital for Allegheny.—The Allegheny General Hospital will probably be soon supplanted by a new institution to cost about $350,000. Already $180,000 has been subscribed and the state will be asked to give $100,000.

Philadelphia.

The Administration Building of St. Timothy's Hospital, Roxborough, was damaged by fire and water to the extent of $2000.

The public baths of the city were patronized during the past year by 108,000 persons; there was a net deficit for the year amounting to $1,481.89.

Quiz Course.—The Medico-Chirurgical College announces a special quiz course for the preparation of candidates for the medical corps of the United States Army, Navy and Marine-Hospital services and for state board and hospital examinations.

Rush Hospital for Consumption held its annual meeting February 19, and plans were announced for a considerable enlargement to the facilities offered by that institution. The number of cases treated during the past year was the largest since the hospital was opened.

TEXAS.

The medical examining board of the eighth judicial district has elected Dr. Joseph D. Beckton, Greenville, president, and Dr. Robert L. Combs, Cooper, secretary.

A committee from the legislature has gone to Galveston to investigate and report on the needs of the state medical college at that place. The board of regents has asked for an appropriation of $60,000 to restore the college buildings which were damaged by the storm, and of $45,000 for the maintenance of the institution.

GENERAL.

Medical Officers' Association.—The annual meeting of the Association of Medical Officers of the Army and Navy of the Confederacy is to be held at Memphis, Tenn., May 28 to 30. All surgeons, assistant surgeons, acting-assistant surgeons or contract physicians and hospital stewards of the army and navy of the Confederate states, and all regular physicians who served honorably in any capacity in the confederate army and navy, and all regular physicians who are sons of confederate veterans are eligible to membership. Dr. A. L. Elcan, Memphis, Tenn., is the secretary.

Practice in Texas.—A medical practice act has just been passed by the legislature and approved by the governor. It repeals all previous laws and establishes three boards of medical examiners to be appointed by the governor on the recommendation of the state medical societies of the regular, homeopathic and eclectic schools. These boards, which shall contain nine members each, shall meet regularly twice a year at certain definite times and places, due notice being given, and examine all persons making application for licenses for practice. The examinations will include the following branches: anatomy, physiology, chemistry, materia medica, histology, pathology, practice of medicine, surgery, diseases of the eye, ear, nose and throat, obstetrics, gynecology, hygiene and medical jurisprudence. The application must be in writing and accompanied with a fee of $15, excepting where it is simply for the practice of midwifery, where the fee shall be $5. A diploma from a satisfactory source is a requisite, the boards apparently being the judges as to its merits. The funds realized by the fees shall go toward the payment of the necessary expenses of the boards of examiners, each board receiving such fees from applicants who appear before it. The exceptions to the provisions of this act are: all those who began practice of medicine in the state prior to Jan. 1, 1885, and all those who began practice since that time, and who have complied with the state laws in effect prior to the passing of this act, provided that those who have diplomas recorded since January, 1891, shall present to said boards of medical examiners satisfactory evidence that their diplomas were issued by a bona-fide college of respectable standard. The law contains a clause providing that newcomers in the state, who have licenses granted by another state board of medical examiners, properly certified and showing that the standard of the requirements of the medical laws of said state or territory are equal to those provided by this act, shall also be permitted to practice on payment of the usual fees. Any person shall be regarded as practicing medicine or surgery within the meaning of the act who shall profess the pursuit of a physician or surgeon and shall offer for practice, as such, for those needing medical or surgical aid and shall charge money or other compensation. The act shall be construed to include persons not pretending to be physicians, who offer for sale publicly on the streets remedies not manufactured and compounded within the state, which they recommend for the cure of disease. The provisions of the act do not apply to persons treating diseases, who do not prescribe or give drugs or medicine. The law, therefore, unfortunately leaves a large gap for osteopaths, "Christian scientists," and all that sort of quackery.

CANADA.

The Tuberculin Test.

Professor Adami, of McGill, Montreal, who has always taken a lively interest in the subject of the tuberculin test, considers it unfortunate that the breeders throughout Canada should be advocating the repeal of the legislation concerning the employment of this test in cattle. He considers the test an absolute necessity for safety in that high-bred herds, by reason of their perpetual inbreeding, are very liable to tuberculosis. A large proportion of the pedigree cattle of England are affected, and against them the Argentine Republic has issued prohibitive legislation and the United States has imposed very severe quarantine regulations. Certain breeders in Canada are thus trying to evade the American regulations by bringing in cattle from England and then exporting them across the line as

Canadian bred and born cattle. Dr. Adami considers this would be a most retrograde step if Canada would cease employing the tuberculin test, a test which is steadily growing in favor in England, France and Germany. He further considers that the alarm concerning the finding of the tubercle bacillus in one of Koch's preparations, tuberculin R., is misplaced, and that the fear of the cattle men may be set at rest as the manufacture of this product has been so modified lately as to make the survival of the bacillus an utter impossibility; and then tuberculin R. is too expensive to be employed on cattle, being reserved for the treatment of human beings alone.

The Asylums of Quebec.

The last annual report of the Asylums of the province of Quebec has been laid on the table of the legislative assembly now in session. This gives the total population of the asylums of that province, in the year 1899, as 2981, and the cost of maintenance $314,157.48, both figures showing an increase over those of 1898. The three principal asylums are now in a satisfactory condition. They are the Quebec City Asylum, the Verdun Institute and the Longue Pointe Asylum. It is noticed that the percentage of cures has been somewhat less than for the previous year. In the Quebec asylum for 1898, it was 41.62; for 1899, 31.75; Verdun, 1898, 43.63; 1899, 33.33; Longue Pointe, 1898, 27.35; 1899, 25.8.

Montreal General Hospital.

The medical superintendent's report showed that 667 patient's were treated to a conclusion during the past quarter. Of these 64 died, or 9.5 per cent. If the number who died within three days of their admission to the hospital were deduced the mortality would be reduced to 5.7 per cent. The daily average number for the quarter was 180, and the average detention 23.5 days. In the out-door department there were 10,733 consultations, an increase of 1,352 over the corresponding quarter of 1900. The financial position of the institution has not been good for some time back; and a proposal was made at the meeting to charge every patient at the out-door department five cents for medicine. The committee of management will look into this matter and report at a later date.

Montreal Civic Hospital.

So repeated and bitter have been the attacks on the condition of the contagious disease hospital, both from prominent medical men of the city and the citizens in general, that the medical superintendent, Dr. Laberge, and the lady superintendent have intimated their intention of resigning. The chairman of Montreal's hygienic committee has been most energetic in trying to secure appropriations for a new institution, but there seems to be a deadlock between the French and English sections in council as to whether one combined hospital for both nationalities or a dual system be adopted.

"Christian Science."

An investigation was recently held in Peterborough, Ont., into a case of death from typhoid fever under treatment by the "Christian Scientists"; an another in Victoria, B.C., on the death of a child from laryngeal diphtheria. In both instances strong verdicts were returned by the coroners' juries, condemning the practices of "Christian Scientists," verdicts which are healthy indications that the public is awakening to the danger of allowing these people to continue endangering the health of the community from disregard of isolation in communicable diseases.

LONDON.

Outbreak of Typhus Fever in Manchester.

A remarkable outbreak of typhus fever has taken place in Manchester, a city from which the disease has been absent for many years. On December 31, two young women were admitted to the hospital suffering from typhoid fever. Five days later two girls were admitted, one suffering from typhoid and the other from typhus fever, and on January 8 a third couple suffering from typhus fever. It was then discovered that all these girls worked at the same establishment—a rag-sorting warehouse. A remarkable feature was that all the persons attacked were engaged in the woolen-rag department, not one in the cotton department being affected. Nearly all the girls live in Ancoats, one of the slums of Manchester, in great dirt and poverty. The source from which the rags were infected can not be discovered. As the disease was not discovered before the patients came in contact with others, there are now thirty cases in the hospitals. One girls seems to have communicated the disease to seven persons. On visiting her home, the medical officer of health, being unable to gain admittance, forced an entrance and found the father and two children in bed, all too ill with typhus to help themselves. Three deaths have already taken place. All the rags have been disinfected, besides the workrooms and houses of the patients.

The Late Queen and the Medical Profession.

Among the universal tributes of loyalty and affection evoked by the death of the queen, those which have come from the medical profession are not wanting in fervency. Her late majesty was always on excellent terms with the profession, whose services she valued highly. At the meeting of the Royal Medical and Chirurgical Society, of which the queen was patron, a loyal address of sympathy and homage to the king was adopted. The president, Dr. F. W. Pary, said that the Society was instituted about a century ago, for the cultivation of medicine and surgery. In approval of its laudable design it received a charter of incorporation from William IV., in which the king declared himself and his successors, if they should think fit, a patron of the Society. The queen followed in his footsteps. Lord Lister, in moving the adoption of the address, said that his was an inexpressibly melancholy honor. The medical profession, whose object is to prevent or relieve the physical ills of mankind, appealed always to her majesty's warm and sympathetic heart, and the profession never had a more loyal friend. All her medical attendants, if alive to-day, would speak with one voice. Nothing could be more striking than her complete confidence in her medical advisers and her submission to chloroform at a time when its use in midwifery was by no means generally recognized and in influential quaters opposed. Lord Lister said that he believed he was the only person who ever exercised on the queen the art of surgery. The occasion was a most critical and anxious one, but while she treated him with queenly dignity, nothing could exceed her kindness. The king has shown, during the past fortnight, that he inherited the grace and tact of the departed sovereign. He always honored and loved the medical profession. Witness all that he had done for Guy's Hospital, and the prosperity of the Prince of Wales' Hospital Fund, in which he took the keenest interest!

FOREIGN.

The antidiphtheria serum prepared in Milan, and recently referred to in these columns as having caused tetanus infection, has been collected in the laboratories of the Superior Council of Health and is to be submitted to experimental tests.

Collection Burned.—A fire in the old portion of the Pathological Institute at Berlin destroyed a cabinet of collections belonging to Virchow. The articles that were saved lost their labels, and Virchow mourns the irreparable loss to himself and to science of this collection of anthropologic and prehistoric relics.

Women as Internes.—A French medical woman has passed the competitive examination and has been accepted as an interne in the Paris hospitals. In 1886 Miss Klumpke was appointed "titular" interne, and five other young women have since been made "provisional" internes. The hospitals of Bordeaux and Rouen have also had women internes.

Deaths.—Dr. G. R. von Hochberger, of Carlsbad, died February 4, in his ninety-ninth year. He had been the recipient of many honors in his long and useful life. The president of the St. Petersburg Military-Medical Academy, Professor V. Paschutin, died suddenly while presiding at a meeting of the faculty of the Academy.

Hygiene of Postoffice.—According to *The Lancet* of February 16, an inquiry into the hygienic condition of the post-office employees in Paris, with special regard to the presence of tuberculosis, showed that this disease was responsible for 36 per cent. of the deaths among the members of the staff, this being a much higher rate than the general tuberculosis death-rate for all France.

Death of Pettenkofer.—The progress of hygiene during the last century owed much of its impetus to Max von Pettenkofer, M.D., of Munich, who, depressed by the inroads of an incurable disease, recently shot himself. He was in his eighty-fourth year, and had been one of the earliest collaborators on the *Muenchener Med. Woch.*, some of his articles dating from 1854. Many international honors had been bestowed upon him.

Endorsement of Company Physicians.—The sixty physicians connected with the Munich Sickness Insurance Company No. 4, refused to accept lower terms than those previously agreed upon, and appealed to the other members of the profession to sustain them in their course. Of the 530 physicians who received this appeal, 509 replied, formally agreeing to

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comply with the request of the subscribers. Most of the remaining twenty-one have nothing to do with this kind of practice, so the results show a practically unanimous endorsement of the company physicians.

Progress of the Plague.—According to *The Lancet*, February 16, the suspicion that a case of plague had occurred at Cardiff has been verified, and a crusade against rats inaugurated, the sum of fourpence being paid for every one caught within the borough or port-sanitary district. A similar effort to diminish the rats at Cape Town, South Africa, followed the reports of the disease having gained a foothold in that city. On February 15 the cable announced twelve cases in the hospitals there, with two deaths up to that date.

Medical Societies in Spain.—The Spanish government has resolved to thoroughly enforce the regulations enacted in 1898, that no physician is allowed to practice unless he has inscribed his name as a member of the local medical society. Each town of more than 14,000 inhabitants must organize one of these societies or academies of medicine, to promote the moral and material interests of the profession and give advice on questions spbmitted by the national or municipal authorities or courts. The *Sem. Méd.* states that they are already organized in a large number of towns.

Correspondence.

Dr. Nicholas Senn and the Louisiana State Board of Health.

NEW ORLEANS, LA., Feb. 6, 1901.

To the Editor:—I have read with much interest the article of Dr. Nicholas Senn, in THE JOURNAL of January 19, entitled "Costa Rica, its Physicians and Medical Institutions." It reflects great credit on this universal writer, but he has been misinformed in regard to some of his statements concerning quarantine. All that comes from the pen of one of such standing as Dr. Senn carries so much weight that it is impossible for me to allow to pass unnoticed some statements which are not justified by the facts.

On page 185 he says: "The quarantine system at the Port of New Orleans is, however, too complicated. There are two quarantine stations under the jurisdiction of the State Board of Health, which often at a distance decides whether or not a vessel should be detained, which often gives rise to great confusion and not infrequently enforces unnecessary quarantine."

The truth is that there is but one board of health regulating quarantine, and that is the Louisiana State Board of Health. The board of health of the city of New Orleans has no right to quarantine under the present law, Act 192 of 1898. The state board is unique and supreme.

There are at the mouth of the Mississippi River two inspection stations. The first is at Port Eads, on the outlet of the South Pass, where a preliminary inspection is made and from which vessels with cases of contagious diseases are sent to the Lazaretto, several miles higher up on Pass a l'Outre. The second station is the famous Mississippi River quarantine station on the east bank of the river, some fifteen miles above Port Eads, where vessels are re-inspected, disinfected and detained.

The Louisiana State Board of Health never at a distance decides whether or not a vessel shall be detained. On April 1, of each year, quarantine is proclaimed against the South American, Central American and West Indian ports by the Gulf and South Atlantic ports of the United States. All vessels arriving at those American ports, from the above quarantined ones, are inspected, disinfected and detained from five to eight days. Fruit vessels bringing perishable cargoes are exempted from detention and are permitted to unload at the wharf under certain conditions, and as long as the Central American fruit ports are free from yellow fever; but as soon as the resident medical inspector of the Louisiana State Board reports the existence of yellow fever at any fruit port, these special privileges are withdrawn or are modified for that port.

Further on, on the same page, the eminent writer states: "The best solution of this important and difficult question would be to place the Port of New Orleans under the jurisdiction of the Marine-Hospital Service, etc."

This expression is most unfortunate, especially as coming so soon after the signal failure of the U. S. Marine-Hospital Service to recognize the existence of yellow fever in time, at Port Limon last year. That service admitted the existence of the fever there several weeks only after the distinguished representative of the Louisiana State Board of Health, Dr. Will H. Woods, had advised the board of the presence of the fever at Limon, and after cases had occurred on fruit vessels plying between that port, New Orleans and Mobile. Mobile was guided by the reports of the representative of the U. S. Marine-Hospital Service and escaped infection only by enforcing the most rigid measures. Although Mobile had not actually recognized Limon as infected, she treated vessels from there as if the port was infected. Finally, she did proclaim Limon infected.

No one can protect us better than we can do it ourselves. The fact is, the people at those ports are so indifferent as to sanitary matters and are so little afraid of yellow fever, that they believe all of our fears are exaggerated. The day that sanitation shall occupy in their minds and practices the high position it does with us, then all reliance may be placed on them and matters will be much improved. Yours truly,

EDMOND SOUCHON, M.D.
President Louisiana State Board of Health.

The Case of Governor Goebel and Bloodless Work.

BOWLING GREEN, KY., Feb. 18, 1901.

To the Editor:—My attention has just been called to a paper in THE JOURNAL of the 9th instant, by Dr. Dawbarn, of New York City, on "The Technique of Bloodless Work," in which is contained the following paragraph, evidently intended by the author as a criticism, of the treatment of the case of the late Governor Goebel: "A recent sensational murder in politics, in another state, produced a bit of most antiquated and archaic surgery—according to the newspapers and several medical journals, and the statement went uncontradicted. I allude to the fact that in order to try to stop the bleeding from his wounded lung the surgeon bled him a pint or more from his arm! This plan has antiquity to recommend it, but nothing else. He died of shock, apparently, and we all know that hemorrhage invites shock. Had the extremities promptly been corded effectively, accumulating venous blood in them, the ending might well have been a different one."

The above paragraph is untrue, and its publication in THE JOURNAL, under the name of a surgeon who claims to be reputable not only does me, but the excellent medical men who were associated with me in the case, a gross injustice. Governor Goebel was not only not bled, but such a procedure was never even suggested, and the report went uncontradicted because no such thing had been published to my knowledge and, had I seen such a publication, I would hardly have expected that any medical man would believe it from mere newspaper rumor. Nor was there at any time serious hemorrhage, practically none externally, only about eight ounces having been found in the pleural cavity after death.

Our patient was in profound shock at first, cold, pulseless and lifeless, but responded with reasonable promptness to the hot saline intravenous injections, heart stimulants and external warmth which were resorted to within a few minutes after he was shot. While the salt solution was running in, the wounds were carefully cleansed and a temporary dressing applied. The patient was in bad physical condition before he was shot. He was never a very robust man, had been under high nervous tension for months, and had an attack of acute indigestion, vomiting freely, before leaving the hotel that morning. Under all of these disadvantages he rallied and did well until the end of the fourth day, dying from a violent foreign-body pneumonia, the bullet having passed through all of his clothing before reaching his body. Drs. Vance, of Louisville, Barrow, of Lexington, and Dandridge, Walker and MacKenzie, of Cincinnati, all distinguished surgeons and teachers, saw the case a few hours after the injury, and were all kind enough to warmly commend the entire treatment, being especially complimentary as to the almost immediate resort to the use of the normal salt solution. You can imagine my sur-

prise at having the treatment unhesitatingly condemned by a man some hundreds of miles away, who is and was as ignorant of what was actually indicated and done as he appears to be of the courtesies due between professional gentlemen.

Snap diagnoses and absent treatment have heretofore been confined to magnetic healers and "Christian Scientists," and this brief experience leads me to hope that such methods will never be adopted by reputable professional men. Very respectfully, J. N. MCCORMACK, M.D.

Another Fraud Solicitor.

CHICAGO, Feb. 15, 1901.

To the Editor:—I learn that several physicians in Chicago have been victimized, as I was, recently by a scoundrel professing to be the representative of a newspaper subscription agency. I presume the firm which he professes to represent is a reputable one, although I wonder that they do not seem more interested in apprehending this man and prosecuting him, as he is not only collecting money in their name, but forging their signature to checks made out to the agency.

As the magazines for which I subscribed failed to make their appearance some weeks after the visit of this agent, I addressed a letter to Moore's Agency, and received the following reply:

Your favor of the 14th received, and in reply would say we have no agent by the name of W. R. Neal, and we do not offer any such list of magazines as you mention for $4.00. This man is a fraud, and we have had a great many complaints in regard to him, as he is traveling around through different cities in the West and carrying on this scheme. We do not have any traveling representatives and never allow the agent to present a receipt in our name, as we have thought it liable to lead to some such system of fraud. We have been unable to locate this man as he travels around from place to place, and we do not hear in regard to him until he has left each locality. If you can find any way by which you can secure him we would advise you to take such steps at once. We regret very much that he should have misrepresented himself as our agent and that we are unable to help you out in the matter. Yours truly (signed), W. H. Moore.

As this fellow seems to have victimized a number of physicians in the city, I think it would be well to warn others through the columns of your journal. Very truly yours,

JOHN M. DODSON, M.D.

Feeding in Typhoid Fever.

BOSTON, Feb. 19, 1901.

To the Editor:—It has been noticed in several cases of fever, especially typhoid, that a total change from an animal food element in diet, and substitution of only vegetable elements was followed by lessened fever, and consequently better sustained strength of the patient.

I am informed that the typhoid bacillus generally develops much more freely on animal culture material than on vegetable, with perhaps occasional exceptions.

Should it not, therefore, seem that the common practice of feeding fever patients with milk and meat juice and such elements as promote the increase of the bacillus and its toxins is simply feeding the fever and thereby weakening instead of sustaining the strength of the patient? A list of foods least promotive of growth of bacilli, also a list of those most promotive might be convenient for reference to the general practitioner. As an inhibitory medicine, harmless in proper doses, sulphite of soda has been thought to aid in retarding the development of bacilli and toxins. JACOB L. WILLIAMS, M.D.

Movable Kidney.

BROOKLYN, N. Y., Feb. 19, 1901.

To the Editor:—I note with great pleasure, in THE JOURNAL of February 9, the paper entitled "Movable Kidney from the Standpoint of the General Practitioner," by Dr. Alexander Marcy, Jr. As these cases are very often of a neurasthenic type, I should like to suggest the employment of lupulin and sumbul combined with either the tincture or extract of nucis vomicæ. There can be no question of the permanent benefit derived from massage and hydrotherapy, properly carried out. Coming now to the local, or mechanical management of nephroptosis, permit me to again call attention to the plaster bandage described by me in the *Medical News* of Sept. 1, 1900, mentioned also by Rose in the *Post-Graduate* for March, 1900. This device is the most satisfactory in every way, of any form of abdominal support, which has come to my notice. It is inexpensive, easily adjusted, not bulky or in any way uncomfortable, and accomplishes its end far better than a ready-made bandage. The special pad for the displaced organ itself, I do not believe avails anything. In contradistinction to the view expressed in the paper under discussion, the above, and not surgical intervention, forms the best mode of treatment for "floating kidney."

The two formulæ I generally employ are the following: In cases in which there is a tendency to constipation: lupulin, 1 gr.; zinc phosphid, 1/16 gr.; sodium bromid, 2½ grs.; gelsemin, 1/20 gr.; arsenious acid, 1/20 gr. These I use, one after meals, and one before retiring. In other cases the following acts admirably: Lupulin, 5 gr. (equivalent to tr. valerian, 1 dram, tr. sumbul, 1 dram), asafetida, 3 gr.; ext. nucis vomicæ, 1/6 gr.; in tablets, taken the same as No. 1.

H. W. LINCOLN, M.D.

Accidental Vaccination.

MEADOW CREEK, W. VA., Feb. 21, 1901.

To the Editor:—In the February number of *Medicine*, a case of vaccin infection was reported. I have seen a similar case. Some time last November a woman came to my office to show me a peculiar looking sore on her neck. I had recently vaccinated a number of persons, and, among them, three children in the family in which this woman was a nurse. On inquiry I found she had been scratched on the neck by one of the children, while taking care of it. She had never been vaccinated. The sore was a characteristic vaccination pustule. I was forced to the conclusion that the child had accidentally conveyed the vaccin from its arm to the neck of the nurse by its finger nails.

G. D. LIND, M.D.

Book Notices.

DISEASES OF THE INTESTINES. A Text-Book for Practitioners and Students of Medicine. By Max Einhorn, M.D. Pages, 390. Price, $3.00. New York: Wm. Wood & Co.

This treatise is a continuation of the author's work on "Diseases of the Stomach," the two volumes thus covering the principal disorders of the digestive tract. The anatomy and physiology of the intestinal canal are briefly and clearly described. Methods of examination are discussed, but we find no mention of the elevated position so important in proctoscopy nor of the long tubular specula for use in examining the lower bowel. The introduction of the whole hand and arm into the rectum, according to Simon, should only be mentioned to be condemned as it is scarcely possible to conceive of a condition in which such a procedure would be necessary.

A duodenal ulcer is defined as "A defect in the mucous membrane of the duodenum." As a scar is as much a defect as an ulcer the definition is not a good one.

The definition of hemorrhoids is also incorrect, as it states that they are simply "varicose dilatations of the hemorrhoidal veins." A hemorrhoidal mass always consists of something more than varicose veins. There is an hyperplasia of connective tissue in addition to the varicosities. The changes are correctly described under "Morbid Anatomy," but the definition is imperfect.

Under the treatment of appendicitis we find these statements: "The use of catharties is mentioned here only in order to condemn it." "The remedy *par excellence* in the treatment of appendicitis is opium." These are the views of an internist. In a recent work on appendicitis by a prominent surgeon of an unusually large experience, we find these statements, just reversed: "The most important feature of the treatment of a case of acute appendicitis is the prompt administration of a laxative—an effort should be made to secure at least several

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stools." "The administration of opium in the treatment of appendicitis can not be too strongly condemned." Such diametrically opposite statements by experienced observers must convince the ordinary man that the course of acute appendicitis is but little influenced by such medicinal treatment. That patient with appendicitis is best off who is soonest rid of his inflamed appendix.

The several varieties of acute intestinal obstruction are clearly described, and the importance of early surgical treatment strongly urged. A very interesting chapter is that on the intestinal neuroses. The volume closes with a chapter on the intestinal parasites. The work, as a whole, is a good one. The author has had a large experience, and writes knowingly of his subjects. The work is also unique in the fact that it is practically the only monograph on the diseases of the intestine in the English language. The practitioner will find in it much useful information.

THE AMERICAN YEAR-BOOK OF MEDICINE AND SURGERY FOR 1901. A Yearly Digest of Scientific Progress and Authoritative Opinion in all branches of Medicine and Surgery, drawn from journals, monographs, and text-books, of the leading American and foreign authors and investigators. Arranged with critical editorial comments, by eminent American specialists. In two volumes—Volume I, including *General Medicine*, Octavo, 681 pages, illustrated; Volume II, *General Surgery*, Octavo, 610 pages, illustrated. Cloth, $3.00 net; Half Morocco, $3.75 net. Philadelphia and London: W. B. Saunders & Co. 1901.

The advance being made in the various departments of medical science is so rapid that it is practically impossible for one to keep up in the various branches of medicine. In fact, it is no easy matter to follow the literature, in one, much less all. There are workers in all fields in nearly all countries, and the results are published in scattered fragments. To collate, digest and analyze all that these fragments contain, and place the results in a compact form for easy reference, is the sphere of the annuals, which have become a necessity. These not only make it possible for the specialist to keep in touch with the progress made in his particular branch, but they make it possible for one to keep in touch with what is going on in every department of medicine. The year-book before us is one of the few annuals that does this well. The editor has associated with him the best men in the various fields of work, and the result is not only completeness, but, what is of greater moment, reliability. To say that the year-book for this year is as good as previous volumes is all that is necessary. It is now published in two instead of one volume, as formerly, and this is a decided improvement. The first volume is devoted to medicine, and includes pediatrics, pathology, nervous diseases, diseases of the skin, physiology, legal medicine, hygiene, physiologic chemistry, etc. The one on Surgery contains also chapters on obstetrics, ophthalmology, otology, laryngology, etc. As the volumes are sold separately this division will be a saving to those who are only interested in special subjects. A complete index with each volume makes ready reference easy. The illustrations are numerous, the mechanical work excellent, and the book as a whole everything that could be desired.

THE STUDENT'S HANDBOOK OF THE SURGERY OF THE ALIMENTARY CANAL. By A. Ernest Maylard, M.B., B. S. (Lond.). Pages, 510. Price, $3.00. Philadelphia: P. Blakiston's Son & Co.

This work is an abridged and amended edition of the author's treatise on the same subject published in 1896. Diseases of the mouth, fauces and pharynx are not considered. Hemorrhoids and fistulæ are considered outside the scope of the work, although polypi, and papillomata of the rectum, prolapsus ani and rectocele are included. Of rectocele he says: "The condition is one due to an injury sustained in childbirth which becomes exaggerated as a woman passes the menopause, and as the vagina is shortened in after life." It is certain no one would even recognize the condition by the definition, which describes almost anything except a rectocele.

The attempt to follow too closely the anatomic subdivisions of the canal has led to much repetition. This not only unnecessarily takes up much space which could be made use of to better advantage, but also often detracts from a clear conception of what actually is met with in practice, as for instance when contusions or subcutaneous injuries are separately described as affecting the stomach, the duodenum, the jejunum and ileum and the large intestine.

Under gastrorrhaphy it is stated: "the sutures pass through the mucous and muscular coats." It evidently should read "serous and muscular coats." The intestinal neuroses are disposed of in a few words, about half a page.

No medical treatment is given, but the author says: "When these cases are not influenced by medical treatment, laparotomy should be resorted to. Nothing probably will be found but, in some mysterious way, the exploratory operation has a beneficial effect."

The work contains much useful, general information, but the reader will be disappointed when he searches it for accurate and definite pathology.

HORTON'S PHYSICIAN'S PERPETUAL, DAILY, WEEKLY AND MONTHLY RECORD SHEET. Price $1.00 to $4.00, according to size. Brooklyn, 289 Quincy Street; Alexander F. Horton, M.D.

This unique record sheet is convenient and useful because it can be carried in the pocket, obviates the employment of the old bulky visiting list, takes the place of the day-book, is perpetual, and can be used with any system of book-keeping.

Married.

JAMES HENRY DITTEMORE, M. D., Axtel, Kan., to Miss Margaret Kent, Troy, Kan.

FRANCIS P. DORSEY, M.D., Hartington, Neb., to Miss Louise Pauline Lerch, Smith's Villa, Iowa, February 12.

ROBERT LEONARD MORRISON, Clarksburg, W. Va., to Miss Margaret Rathbone Paden, at Parkersburg, W. Va.

OTTO FISHER BALL, M.D., to Miss Leonora Montgomerie, daughter of Colonel John J. Clague, U. S. Army, both of St. Louis, February 19.

Deaths and Obituaries.

William H. Egle, M.D., University of Pennsylvania, 1859, librarian and historian, died from pneumonia, at his home in Harrisburg, Pa., February 19. He served two years as surgeon of the Forty-seventh Pennsylvania regiment during the Civil War, and subsequently as a brigade surgeon in the national guard of the state. He was a member of the AMERICAN MEDICAL ASSOCIATION and other societies. During the past fifteen years Dr. Egle had been relatively passive in medical work, yet his sympathies, time and advice, were always freely given for the general advancement of medical science and the general good of the profession. His last years were almost entirely devoted to literary work and historical research. He had been state librarian in Pennsylvania since 1887 and brought the library to an exalted standard of efficiency. He was a corresponding member of nearly every one of the historical societies in the English-speaking world, and his contributions to the literature pertaining to local and state history and genealogy were many. At a special session of the Harrisburg Academy of Medicine, February 21, which was called to take action upon Dr. Egle's death, highly eulogistic remarks were made by several members of the Academy and resolutions of regret and sympathy passed.

Joseph H. Linsley, M.D., University of Vermont, 1880, died from meningitis, at his home in Burlington, Vt., February 17, aged 42. A year after his graduation he went to New York and was appointed instructor in clinical microscopy in the New York Post-Graduate Medical School, and a year later was made director of the laboratories of histology, pathology and bacteriology, doing in addition the pathological work of St. Luke's and the Presbyterian hospitals. In 1890 he went to Berlin and took a course in bacteriology under Koch. Later, he was made professor of pathology and bacteriology in the University of Vermont. His greatest work was in connection

with the upbuilding of the Vermont State Laboratory of Hygiene. In 1897 he opened a small laboratory for the examination of cultures for suspected diphtheria cases and typhoid fever, and a year later the state created a bacteriological laboratory, placing Dr. Linsley at its head.

Alexander Neil, M.D., Cincinnati College of Medicine and Surgery, 1863, surgeon throughout the Civil War, a well-known physician of Columbus, and a member of the AMERICAN MEDICAL ASSSOCIATION, died at his home in Columbus after a long illness, February 14, aged 62.

Harris O. Palmer, M.D., Dartmouth Medical College, Hanover, N. H., 1867, who had practiced for nearly thirty years in Hubbardston, Mass., died at his residence in that place from pneumonia, February 17, after an illness of one week, aged 60.

Horace G. Hill, M.D., Jefferson Medical College, Philadelphia, 1882, chief medical director of the Fidelity Mutual Life Insurance Co., a resident of Philadelphia, died at Wernersville, from la grippe, February 14, aged 42.

Almon G. Bruce, M.D., University of Wooster Medical Department, Cleveland, Ohio, 1870, a popular physician, and at one time mayor of Albion, Mich., died at his residence in that place, February 9, from apoplexy.

William E. Curtis, M.D., University of Nashville, Tenn., 1861, a member of the AMERICAN MEDICAL ASSOCIATION and a leading physician of Carroll County, Tenn., died at his home in McKenzie, February 9, aged 60.

Richard Searing Seaman, M.D., College of Physicians and Surgeons, N. Y., 1851, died at his home in Brooklyn, N. Y., on February 17. He had been in practice at Glen Cove, L. I., for more than thirty years.

Thomas F. Murdoch, M.D., University of Maryland, Baltimore, 1850, a practitioner of Baltimore for nearly half a century, died suddenly at his residence in that city, February 18, aged 81.

William Booz, M.D., College of Physicians and Surgeons, Keokuk, Iowa, 1877, an old resident practitioner and preacher of Hancock County, Ill., died at Carthage, February 20, aged 69 years.

Francis M. Bennett, M.D., Medical College of Virginia, 1881, died recently in Montgomery, W. Va. He was a member of the Fayette County Board of Health and a sanitarian of repute.

William Rice, M.D., University of Pennsylvania, 1860, for thirty years a resident, and twice mayor of Trenton, N. J., died suddenly at his home in that city, February 13, aged 61.

George L. Kirby, M.D., Long Island College Hospital, N. Y., 1860, died February 19, at the state hospital, Raleigh, N. C., of which he had been superintendent since 1894.

Hanly B. Potter, M.D., University of Buffalo, N. Y., 1874, of Lafargeville, N. Y., died February 18, while on a professional visit at Orleans, Four Corners, aged 61.

David W. McConnell, M.D., Starling Medical College, Columbus, Ohio, 1870, died at his home in Marseilles, Ohio, February 20, from pneumonia, after a short illness.

Daniel Handel, M.D., University of Iowa, Iowa City, 1875, was struck by a train at Onawa, Iowa, and died at his home in that place as a result of his injuries, February 19.

Jefferson S. Harbison, M.D., National Medical College, Washington, D. C., 1860, died at his home in Knoxville, Tenn., from Bright's disease, February 16, aged 69.

Lemuel Watson, M.D., Jefferson Medical College, Philadelphia, 1870, of Nebraska City, Neb., died from paralysis after a long illness, February 18, aged 76.

Henry Nichell, M.D., University of Buffalo, N. Y., 1857, a member of the AMERICAN MEDICAL ASSOCIATION, died at his home in Buffalo, February 14, aged 80.

William P. Manning, M.D., University of Maryland, Baltimore, 1869, died at his residence in Washington, D. C., February 9, aged 56.

G. Byron Lyman, M.D., College of Physicians and Surgeons, Baltimore, Md., 1878, died recently at his home in Yuba City, Cal.

John C. Tedford, M.D., Washington University, St. Louis, Mo., 1859, died at his home in Moberly, Mo., February 13, aged 75.

George T. Watkins, M.D., University of Louisville, Ky., died at his home in Kokomo, Ind., from dropsy, February 18, aged 66.

Thomas C. Neal, M.D., Castleton Medical College, Castleton, Vt., 1848, died at his home in Sugar Creek, N. C., February 9.

I. Newton Jones, M.D., Medical College of Ohio, Cincinnati, 1866, died February 21, from pneumonia, aged 57 years.

Levi Royer, M.D., University of Maryland, Baltimore, died at New Windsor, Carroll County, Md., February 10, aged 61.

Edward A. Glezen, M.D., Ireland, Ind., died at that place, February 12, from la grippe, aged 82.

Miscellany.

Cleansing the Hands. —The hands may be washed in pure carbolic acid without harm if they are washed in alcohol immediately afterward.

A Memorial to Queen Elizabeth's Physician.—This is to be erected in a niche in the main facade of the new town hall at Colchester, England. This marble statue of Dr. William Gilbert (1540-1603) is to be erected by the medical profession, and the minimum amount required is only £150, of which £130 has been contributed. Dr. Gilbert was a distinguished natural philosopher, as well as physician. His conjecture that terrestial magnetism and magnetism were allied emanations was confirmed more than two centuries afterward by Oersted and Faraday. There is as at present a handsome monument over his remains in the church of the Holy Trinity at Colchester, which was his native town.

Muscular Work and Food Digestibility.—The United States Department of Agriculture has issued its third bulletin upon dietary studies. This work was conducted at the University of Tennessee, from 1897 to 1899, by Dr. Charles E. Wait, professor of chemistry, and a corps of assistants. The drift of this report is that more fat is consumed in the South than is necessary; the leaner meats as beef and mutton should be more the vogue. More nitrogenous vegetable foods, as beans and peas, with less fat and starchy foods constitute a more ideal dietary. In this brochure attention is invited to the great value of the cow-pea as fulfilling most of the indications desired. "Experiments on the Effect of Muscular Work Upon the Digestibility of Food and the Metabolism of Nitrogen" is the title of the article in "Bulletin No. 89."

A Remarkable American: Dr. William Pepper.—The *British Med. Jour.* of February 16 publishes the following tribute, by W. T. Gairdner, to Dr. Pepper, who, he says, "was not only a great public benefactor, but one whose friendship I enjoyed in no ordinary measure during a visit to the United States in 1891. In that year I was at Washington, on the joint invitation of Dr. Pepper and Dr. Weir Mitchell, the one the retring president, the other the president-elect of the American Medical Congress. Previously to this, however, I had made a number of visits in New England, and had spent some very happy days with Dr. Pepper at Newport, R.I., where in the autumn season he allowed himself, I suppose, as much of a holiday as he ever had. I think I am justified in saying that there was no one on this side of the Atlantic who was more admitted to his intimacy than I was then, and in our correspondence during the succeeding years, up to within a very few weeks of his premature and sudden death. It was very easy even then to see that he was a man utterly regradless of

self, and living only for the sake of his university and his many public functions. It was also not difficult to perceive that his mode of living, the incessant occupation and overstrain were such as to endanger the health and endurance of the bodily machine. I ventured to represent this to him—as I daresay others may have done—but only to find that as long as he did not feel positively ill his only notion of living was to get as much work out of himself as either body or mind would endure, regardless of all but the great interests and schemes with which his name was associated. He was Provost of the University of Pennsylvania at this time, and felt a noble pride in all that he had done and was doing for the higher education in that great center, where out of a large professional income he was devoting what he regarded as the superfluities (for he avowedly disregarded wealth for himself and for his family) with the most lavish and yet calculated munificence to the improvement of the medical, and especially the clinical, department of the University. Dr. Pepper must have been a hard and constant worker from an early period of his career. My first knowledge of him was when he was associated with Dr. Meigs in a work on the 'Diseases of Children,' which passed through several editions, and was—or perhaps still is—a leading work on the subject. His literary activity after this was unceasing, and I pleaded with him for his own sake to abandon some considerable portion of his literary or, alternatively, of his public labors, in order to devote himself more to his private and consulting practice. Some time afterwards he did, in fact, resign the provostship, but as he had at the same time assumed other public duties, I am far from certain that there was any material relaxation of his great and abnormal activity up to the time when he was compelled by sheer disability to leave all his work, and, as it proved, to seek renewed health in a journey which was terminated by his sudden death. He never gave me any hint of cardiac suffering either in conversation or correspondence; on the contrary, he led me to expect some day a pleasant return visit to this country, to which he always looked forward with joyful anticipation, but which was always postponed, more (as I understood) on account of the state of his wife's health than of his own. Few men, in as brief period, have become more endeared to me than Dr. William Pepper; and few men in his own, or any other country, can have lived a nobler life, or one more devoted to the public interest."

A New Blanket Litter.

The Surgeon-General of the Army has issued a circular inviting the attention of his medical officers to a method of carrying disabled men, devised by Acting Assistant-Surgeon C. E. MacDonald, U. S. A., Fort Yates, N. D., which appears to be of value for the transportation of a certain class of wounded in the absence of litters. The method requires the

services of two bearers and the use of two blankets or shelter-tent pieces. It has been used for some time as an experiment at all first-aid drills at Fort Yates, and is regarded as preferable to the methods which have heretofore been employed. It has been tested also at the school of instruction for the hospital corps, at the U. S. General Hospital, Washington, D. C., with favorable results.

Each blanket or shelter-tent piece is folded, rolled or twisted into a cylindrical form on one of its diagonals. The two cylinders are placed side by side and their contiguous ends are tied together by reef knots. The bearers then raise the tied blanket rolls and adjust them, the one knot on the right shoulder of the right bearer and the other on the left shoulder of the left bearer, one blanket cylinder curving from shoulder to shoulder in front and the other behind. To prepare the blanket litter or seat for the patient the bearers kneel, the right bearer on his left knee and the left bearer on his right knee. They then pull the middle part of the posterior cylinder to the front underneath the corresponding part of the anterior cylinder which is at the same time drawn to the rear so as to form a sitting space of six or eight inches enclosed between the rolls. The patient is placed on this space and is supported behind by the contiguous arms of the bearers. Figure 2 shows

them ready to march off with their burden. Acting Assistant-Surgeon MacDonald has used these blanket cylinders successfully as an extemporized litter for patients with the lower extremities immobilized by a rifle splint.

Societies.

COMING MEETINGS.

Medical Society of the Missouri Valley, Omaha, Neb., March 21, 1901.

German Congress of Otology.—The German Otological Society holds its annual meeting this year at Breslau, May 24 and 25. The arrangements are in charge of Professor Kuemmel, Thiergartenstrasse 53, Berlin.

John B. Deaver Surgical Society.—The John B. Deaver Surgical Society of the University of Pennsylvania held its fifth annual reunion in Philadelphia, February 11. Dr. Deaver presided and the twenty student members of the Society entertained about seventy-five guests.

El Paso County (Colo.) Medical Society.—This Society held its annual meeting at Colorado Springs, February 13, and elected Dr. Robert K. Hutchings, president; Dr. John O. Reddie, vice-president, and Dr. Frank L. Dennis, secretary and treasurer, all of Colorado Springs.

Medical Society of the City of Carrollton, Ga.—The physicians of Carrollton met on February 15 and organized a local society with the following officers: Dr. Stevens T. Harris, president; Dr. M. M. Hallum, vice-president; Dr. J. F. Cole, secretary, and Dr. Delvous Houseworth, assistant secretary.

Pomona Valley (Cal.) Medical Society.—At the meeting of this Society, in Pomona, January 31, the following officers were elected: Dr. Conley Heaton, Pomona, president; Drs. William A. Lillie, Ontario, and T. Hardy Smith, Pomona, vice-presidents, and Dr. Edward Henderson, Pomona, secretary and treasurer.

Western Ophthalmologic and Oto-Laryngologic Association.—Dr. W. L. Ballenger, Chicago, secretary of this Association, announces that the next annual meeting will be held in Cincinnati, April 11 and 12. Dr. Christian R. Holmes is chairman of the local committee of arrangements.

North Montana Medical Society.—At the regular monthly meeting of this Society, at Great Falls, Dr. Ernest Crutcher offered resolutions recommending the prompt enactment of a pure food law and of a statute governing the inspection of

milk and dairies in towns of 1500 or more inhabitants. The resolutions were adopted.

Belmont County (Ohio) Medical Society.—The tenth annual dinner of this Society was held in Bellaire, February 22. Dr. J. Park West, welcomed the guests; Dr. James S. McClellan acted as toastmaster, and Drs. A. H. Hewitson, St. Clairsville, and Arlington W. Diven, Martins Ferry, responded for the nineteenth and the twentieth century doctor respectively.

Orange County (N. Y.) Medical Association.—A meeting of the members of the Fifth District Branch of The New York State Medical Association was held in Middletown February 12, and the Orange County Medical Association was organized. Dr. Milton C. Conner, Middletown, was elected president; Dr. Frank W. Dennis, Unionville, vice-president, and Dr. Charles I. Redfield, of Middletown, secretary and treasurer.

Chautauqua County (N. Y.) Medical Association.—A meeting of the members of the Fourth District Branch of the New York State Medical Association was held at Jamestown, February 13, and the Chautauqua County Association was organized. The following officers were elected: Dr. Thomas D. Strong, Westfield, president; Drs. William M. Bemus, Jamestown, and A. C. Shaw, Cassadaga, vice-presidents, and Dr. Henry A. Eastman, Jamestown, secretary and treasurer.

Johns Hopkins Historical Club.—At the meeting of the Johns Hopkins Hospital Historical Club, February 11, Dr. Tinker read a paper entitled "The First Nephrectomy and First Cholecystotomy." Both were performed by Americans from the West, the first by Dr. E. B. Wollcott, of Milwaukee, June 4, 1861. It was reported in the *Philadelphia Medical and Surgical Reporter*, Vol. 7, 1861-2. The second operation was performed June 15, 1867, by Dr. J. S. Bobbs, of Indianapolis, and was reported in the Indiana Medical Society Transactions, 1868. The patient was still living in 1899.

International Institute of Psychology.—The Institute has its headquarters in Paris and formally commenced its labors January 30. The committee of organization includes F. W. H. Myers, for England; Morton Prince, for America; Lombroso, for Italy; Mendeleeff and others, for Russia; Flournoy, for Switzerland, and Schrenk-Noetzing, for Germany. The lectures will be held at 5 p.m., and some of the most prominent psychologists and physiologists of Europe are on the list of speakers. Among the subjects announced are "Application of Psychology to Medicine"; "Relations Between Experimental and Introspective Psychology"; "Practical Applications of Hypnotism and Moralizing Suggestion", and "Conductibility of Psychic Force."

Will County (Ill.) Medical Society.—This Society held its regular meeting at Joliet, February 15.—The special business of the session was the discussion of certain bills now before the legislature, which especially interest the medical profession, and regarding which the Illinois State Medical Society, through its judiciary council had asked an expression of opinion. First among these was the isolation of tubercular convicts. The idea of this bill is to do away with the custom which has prevailed in the penal institutions of the state, where tubercular convicts mingle in the hospital and workrooms with the other convicts both sick and well. It is proposed to provide a room or ward in the hospital, and where this is not possible, to provide a separate building where tubercular convicts can be isolated, with the hope of preventing the spread of tuberculosis and diminishing the death-rate of the convicts from this disease. It was the opinion of the society that this bill should pass. The establishment of a state sanitarium for the tubercular was next considered. From information at hand the society was unable to determine whether it was the intention to provide a state institution for the care of the indigent tubercular to be cared for at the expense of the state, or whether the institution was to receive all cases of tuberculosis. In either event, the society considered that the establishment of such an institution would be a step in the right direction. The society unanimously approved the bill providing for the establishment of a colony of epileptics similar to the Craig Colony of New York State, and that making boards of county commissioners in counties not organized on the township basis boards of health, and inasmuch as every county should have a board of health empowered to discharge the duties pertaining to such. Pending definite information regarding the proposed bill amending the medical practice act, so as to give the State Board of Health power to revoke diplomas issued prior to 1899 "for causes," the society instructed the secretary to ask for more details regarding the matter. The Society voted unanimously in favor of the bill amending the medical practice act so as to eliminate the "Christian Scientists."

ASSOCIATED HEALTH AUTHORITIES AND SANITARIANS OF PENNSYLVANIA.

Eighth Annual Meeting, Held at Harrisburg, February 6.

About seventy-five delegates were present, representing nearly every part of the state.

Report of Legislative Committee.

The committee presented several bills which it desired the legislature to enact, for the increase of the annual appropriation to the State Board of Health, to enable it to carry into effect the registration of the vital statistics of the state, to prevent the pollution of the streams which provide water-supply for domestic use, to provide for a sanitary survey of the waters of the state, to make mandatory the law already enacted giving power to school boards to act as health boards, to make the wardens who now act to prevent destruction of the forests act as health wardens and to give the secretary of the state board an increase of salary commensurate with the work he is now doing. It was seemed advisable to urge for a sanitary survey of the waters as an entering wedge toward providing for greater powers to enable the domestic water-supply to be placed under the guardianship of the state board, and thus prevent the present fearful pollution which obtains almost everywhere in the state.

The discussion which followed the reading of these bills showed an almost unanimous belief in the great need of such action, while there was expressed a fear that the passage of these was almost impossible, as the tanneries, saw-mills, etc., are united in opposing them as interfering with their rights to use the waters everywhere as common sewers. It was suggested that the health inspectors in each county could be better used than appointing new officers called health wardens.

Diphtheria Antitoxin and Quarantine.

DR. E. G. MATSON, bacteriologist of the Bureau of Health of Pittsburg, read a paper on the immunizing value of diphtheria antitoxin and the responsibiiity of municipal boards of health for the prevention of diphtheria. He showed how the disease had increased everywhere, and how by careful quarantine it can be controlled, demanding the report of all cases by physicians and others, and alluded to the success obtained in regard to smallpox and vaccination, but the quarantine and thorough reporting demanded. Diphtheria is more difficult to recognize, requiring a bacteriologic examination to prove its presence and so often regarded as an ordinary sore throat, till too late to prevent its spread. Quarantine, always difficult, is doubly so and in many cases too late to aid in its control.

A thorough discussion followed this paper and showed quite a difference of opinion as to the value of diphtheria antitoxin, as well as the benefit of quarantine. The long continuance of the bacilli in the throat after all severe symptoms have passed, causes great trouble as to the continuance of the quarantine, and demands the utmost vigilance and repeated bacteriologic examinations. Formaldehyde was extolled as of great value, and several health officers said they had positively prevented any recurrence of the disease by its use.

During the discussion, a prominent manufacturer of diphtheria antitoxin startled the assemblage by announcing his want of confidence in antitoxin in the disease. He had lost 90 per cent. of cases in spite of its free employment. In rebuttal one physician stated that he had a success of 100 per cent. where he used this agent. It appeared that many physicians reported all sore throats as diphtheria, while many others failed to report because they regarded the cases as only those of sore throat. For a few minutes the discussion was quite animated, with the result of making many doubtful what they ought to believe.

[It must be remembered that the Association is composed of delegates from the local boards of health, and in many instances these are not medical men, nor in any way posted in the science of medicine. They are appointed by the councils of the boroughs or township, often for their activity as political workers, in fact one board was removed for too great activity as sanitarians, because it offended a prominent local politician by compelling him by law to remove a nuisance after he had refused to obey an order for its removal.—ED.]

Porto Rico Conditions.

SURGEON G. G. GROFF, late brigade surgeon, U. S. A., at Porto Rico, and president of the Superior Board of Health of that island, corrected many false views as to the place, described at length the diseases which prevail, the absence of smallpox—formerly very prevalent, now stamped out by thorough vaccination, about 800,0000 people having been vaccinated —the almost equal removal of yellow fever by the sanitation carried forward in every part. He showed how the poor live in almost complete want of proper and sufficient food, or housing, the want of energy on the part of the people under the reign of the Spaniards, and the present rapid improvement under the work of the military authorities of the United States. There is the chief board, or Superior Board of Health, to which the local boards in each of the more than eight hundred municipalities report. He spoke of the almost total absence of typhoid fever, scarlet fever, etc., and the prevalence of anemia due to the condition of the people as a whole. He showed the effects of the late tornado, which devastated the whole island, and how many still live among the ruins of their houses waiting till they can be given aid to rebuild. The lecture was illustrated by views thrown on a screen.

Mine Sanitation.

In a paper on this subject a mine foreman showed the want of care in the removal of smoke and powder smoke from the passages, etc., the need of men working with their feet constantly wet and water dripping on them from above, and stated that the principal disease was miners' asthma, incurable and very distressing, remaining after many years removal of the patient from mine work.

MR. JOHN S. FULTON, president of the State Board of Health, said he had been engaged for many years among miners, and never found them specially unhealthy; they live to old age, many very comfortable, in short, he regarded the paper as all wrong, and objected to its being published with the proceedings in the journal, *Public Health*.

Pollution of Streams.

The Legislative Committee presented certain supplementary reports on changes in the acts presented above, and this brought up the pollution of waters by the refuse of tanneries. Hair from hides has been found in Clarion, sixty miles below the tanneries, in the pipes supplying water to that city. As many hides come from abroad, and are notoriously infected with disease, the danger to the users of this water is great. A number of members demanded the passage of acts to protect the domestic waters of the state. The contamination of ice was introduced, and the question asked as to the effect of freezing in expelling germs of disease from water. On this head many held peculiar views, in that they insisted that all germs were thus destroyed or rendered harmless. The bacteriologists present, however, insisted that germs are constantly found in ice, hence ice made from polluted water is dangerous.

Officers for 1901.

The officers elected for the ensuing year are: Crosby Gray, Pittsburg, first vice-president; Dr. H. H. Whitcomb, Norristown, second vice-president; Dr. E. S. Wagner, Mechanicsburg, third vice-president; Jesse C. Green, D.D.S., West Chester, treasurer; Dr. Wm. B. Atkinson, Philadelphia, secretary.

CHICAGO PATHOLOGICAL SOCIETY.

Meeting held February 11.

DR. L. HEKTOEN, president.

Osseous Stylohyoid Arch.

DR. THOMAS R. CROWDER described three cases of osseous stylohyoid arch. The stylohyoid arch is a constant structure in the higher vertebrates. In many, as the horse, cow and sheep, it is completely bony; in man it is largely ligamentous. Developmental defects with more or less ossification are not infrequently found, but complete bony arch is rare. The three cases presented were not recognized before death. The anomaly is to be looked upon as a developmental defect and not as an ossification of the stylohyoid ligament once developed in the normal way. It has no clinical significance beyond the possibility of fracture——an unlikely accident.

Blastomycetic Dermatitis.

DR. F. G. HARRIS reported a case of blastomycetic dermatitis in a woman 78 years old. The growth was located on the gluteal region and commenced four years ago, as a pimple which became a roughened area of intense itching and later became apparently denuded. The growth was 11 cm. long by about 6 cm. wide, having an elevated border bearing flattened papillomatous outgrowths which overhung the floor, the latter being covered with villus-like epithelial projections interspersed with areas of ulceration. The entire growth was movable on the underlying tissues; there were no secondary growths on any part of the body, nor was there any evidence of syphilitic infection. Microscopic examination showed a hyperplasia of the rete mucosum which grew down into the corium in branching, coral-like projections. In these epithelial down-growths were miliary abscesses containing the blastomycetic organisms which were present in groups of three or more. Many of them were in the process of budding. There were no cultures made from this case, on account of the diagnosis not having been made clinically.

DR. D. LIEBERTHAL referred to a case recently observed, in which a provisional diagnosis of syphilis was made, where the blastomyces were found in sections. He still held to his original diagnosis.

DR. H. T. RICKETS said that the histology of blastomycetic dermatitis is a specific one and entirely different from that of tuberculosis and syphilis.

DR. H. G. ANTHONY spoke of the points of difference between blastomycetic dermatitis and the syphilitic and tubercular lesions resembling it.

DR. L. LOEB called attention to the fact that blastomycetic dermatitis had not been produced experimentally.

DR. W. E. COATES compared blastomycetic dermatitis to certain diseases in plants. He considers the organisms observed in the skin lesions as spores of fungi.

DR. F. G. HARRIS stated that his case was treated with iodids for three weeks, without any improvement.

Secondary Carcinoma of Lungs

DR. E. R. LE COUNT demonstrated a diffuse secondary carcinoma confined to the lymph channels of both lungs of a man who died from carcinoma of the stomach, while in the service of Dr. Kramps, at the St. Elizabeth Hospital; the condition was correctly diagnosed during life. At the necropsy, the usual large metastatic tumor nodules were found in the liver, together with an extensive involvement of the peripancreatic, retroperitoneal, peribronchial and peritracheal lymph glands; the adrenals were the seat of a very extensive carcinomatous growth; there were small tumors in the outer parts of both kidneys. The primary tumor from which all these metastatic growths arose was located near the pyloras and showed no features other than are often observed in gastric carcinomata. The lungs were alike in appearance; both possessed very extensive subpleural, linear branching and tortuous carcinomatous growths in the lymph channels, as well as tumor masses in the lymph channels of the deeper parts of the lungs. There were no nodular growths in the lungs, as are observed in consequence of the embolism of tumor cells. The lungs were fresh, no microscopic examination having been made, but the gross appearance supported, in all its details, the opinion that a retrograde lymphatic metastasis had occurred in these channels from the lymph glands at the roots of the lungs.

Toxic Effects of Formaldehyde.

DR. MARTIN H. FISCHER reported the results obtained from a study of the toxic effects of formaldehyde and its aqueous solution, formalin. The inhalation of formaldehyde is accompanied by marked inflammatory changes throughout the respiratory system. Dyspnea, depression of temperature, tachycardia, weak pulse, and vomiting follow the introduction of formalin into the stomach. Sudden death may result. The severity of the symptoms and the degree of histologic disturb-

ance bear no relation to the strength or quantity of the injected formalin. The gastritis is characterized by intense congestion, necrosis and leucocytic infiltration. Intraperitoneal injections produce a fibrino-hemorrhagic peritonitis of varying intensity, according to the strength of the solution. The peritonitis following chronic formalin poisoning produced by injecting small amounts of dilute formalin intraperitoneally, is accompanied by great connective tissue proliferation, and a striking eosinophilia. Subcutaneous formalin injections produce marked exudation and leucocytic infiltration. The introduction of formalin into the conjunctival sac is followed by an iritis, which, when a single drop of the concentrated chemical is used, may be sufficient to permanently injure the eye.

In whatever way formalin is introduced into the body, certain systemic changes result. Degenerative changes and focal necroses are found in the liver and kidneys. The leucocytic infiltration following the introduction of formalin is characterized by the eosinophiles appearing first; these are followed by the other polynuclears; last of all appear the mononuclears. It is believed that differences in osmotic pressure are to be held accountable for the exudation. The death of the cell is accounted for in two ways: 1, by disturbances in osmotic pressure and, 2, by a deleterious chemical action—probably the reducing power of formaldehyde.

PHILADELPHIA ACADEMY OF SURGERY.

Meeting held February 5.

President Dr. DeForrest Willard in the chair.

Incision for Mammary Carcinoma.

DR. WILLIAM L. RODMAN read a paper entitled "The Best Incision in Operations for Mammary Cancer." In removing carcinoma the incision, whichever is used, should be of such length as to carry it well into the axilla, so that all the lymphatic glands are removed. One should guard against making transverse incisions across the lymphatic channels, since that might be a means of further infection. The fascia about the pectoral muscles should be entirely removed, if not all the pectoral muscles themselves. In the Kocher operation retractors become necessary to expose the axillary vessels. The Halsted operation is still more radical. The essential features are to make an incision so as to include all the infected skin; it should be of sufficient length to expose all the axillary vessels and glands; it should be completed in a reasonable length of time. In three cases in which the Warren operation was done it proved beneficial. Primary union occurred in all of them. This operation can be done more quickly than the Halsted operation and a better use of the arm results.

DR. JOSEPH HEARN thought that the results had been good. Personally he had been in the habit of beginning the incision below the clavicle, exposing the blood-vessels and ligating them, thus preventing hemorrhage.

DR. W. J. TAYLOR asked whether a straight incision gave sufficient space to view the axillary vessels.

DR. G. G. DAVIS stated that his experience had been that it was hard to close the incision by any method employed. In the Halsted operation the cicatrization was hard to overcome. As to controlling hemorrhage, he believed it very difficult and thought a large number of forceps necessary.

DR. JOHN B. ROBERTS thought that the early period of time with which the speaker had been able to dismiss the cases from the hospital showed that the results had been good. He had been in the habit of beginning the incision above the clavicle so as to expose the lymphatics in the supraclavicular space, afterward making an incision down through the infra-clavicular space. In his opinion both pectoral muscles should be removed.

DR. W. L. RODMAN, in closing, stated that he had not tried the vertical incision in the Warren operation. He had not been in the habit of opening the supraclavicular space in this operation. He believed the records would go to show that carcinoma is more frequent in the colored than in the white race.

Abscess of Lung.

DR. JOSEPH HEARN exhibited "A Case of Abscess of the Lung Following Gangrene in which Pneumotomy had been done." The patient was a man about 24 years of age, who had suffered from an abscess in the lung, and this had been opened; after an injection of a solution of methylene blue, this would be immediately expectorated, showing that there was a direct communication between the cavity and the trachea. A drainage tube was inserted in the wound after the operation, and left *in situ* for a long period. The communication between the abscess cavity and the trachea still exists, as shown by the methylene blue test. The patient has greatly improved and is now on his way home. The question at present is how to best close the large opening which still remains in the right hypochondrium where the operation was done.

DR. W. BARTON HOPKINS was under the impression that strapping the side might have a tendency to close the wound.

Thoracic Aneurysm.

DR. DE FORREST WILLARD reported "A Case of Traumatic Thoracic Aneurysm Treated by the Introduction of Wire and Electricity." The patient was a man aged 23 years, who, in August, 1900, sustained an injury from the fall of a heavy wooden box which struck him on the chest. Subsequently much distress was shown, with some hemoptysis. Six months later there was pulsation in the right chest. There was no tracheal tugging, nor supraternal pulsation. From the clavicle to the axilla on the right side, dulness could be elicited, and on auscultation a systolic murmur could be detected, which was not transmitted to the carotids. The heart was pushed to the left and the impulse was rather forcible. The man finally began to lose flesh and strength, complained of pain and an operation was advised. The speaker had then by means of a canula introduced about twenty feet of silver wire—No. 25—into the aneurysm. On introducing the canula the blood rushed out rythmically with the heart's beat, which at first gave rise to some apprehension, but as soon as the galvanic current—40 milliamperes, increased 5 milliamperes every few minutes until 80 milliamperes had been reached continuing for one hour—had been turned on the hemorrhage at once ceased and did not recur. The patient was not under the influence of an anesthetic. At the end of two weeks the aneurysmal sac has diminished one-third in size and the patient has greatly improved.

DR. D. D. STEWART had first employed this operation in 1890. As a preliminary step he always introduces a canulated needle to determine the thinnest portion of the sac wall, after which he then introduces gold or silver wire of 28 to 29 gauge. He generally inserts about fifteen feet. At present he is in favor of introducing two or three feet of wire in several different regions of the sac. What is desired is to coagulate the albumin, and to dissociate the watery elements of the blood; therefore electrolysis must necessarily occur to be of benefit. In applying the galvanic current he always begins at zero, gradually increasing every few minutes until 65 to 80 or even 100 milliamperes have been reached. He would not advocate the introduction of iron wire in these cases, since too much detritus might occur. An important feature is to make the patient understand that there is little or no danger in the operation per se. One of his cases lived for three years after the operation, then dying of some other disease.

CHICAGO ACADEMY OF MEDICINE.

Meeting held January 10.

Dr. Sydney Kuh in the chair.

Relations of Carcinoma of the Stomach to Chronic Round Ulcer of this Organ.

DR. GUSTAV FÜTTERER presented a preliminary paper on this topic. His conclusions are:

1. Mechanical irritation or friction is a most important factor in the production of carcinoma.

2. Mechanical irritation or friction must be of a certain quality in order to produce carcinoma. Instances of this casuistic of carcinoma are related and the presence and location of proliferations of the mucous membrane of the stomach after the same mechanical conditions could be created as they

exist in large ulcer in man prove the importance of a certain quality of mechanical irritation.

3. Mechanical influences displace epithelial cells into the intermediary apparatus of nutrition, thus causing a practically unlimited proliferation of the displaced cells, apparent, not real inherent malignancy, metastasis and, through the overloading of the circulation with the physiologic products of the transplanted cells, different forms of cachexia.

4. It seems that—as a rule—the displacement occurs gradually while the possibility of a successful sudden displacement of normal epithelial cells can not be denied, notwithstanding the fact that all experimental research in this direction by others and also by myself have, so far, been unsuccessful.

5. Large ulcer of the stomach on section has the characteristic form of a fish-hook.

6. Carcinoma of the stomach when found with an ulcer, healed or not healed, must be considered secondary to the ulcer.

7. Carcinoma of the stomach when originating from a scar, grows from the point of the "fish-hook."

8. I have been able to create atypical growth of glands in the mucous membrane on the margin of an artificial ulcer of the stomach in a rabbit, that had all the characteristics of gastric ulcer in man and which showed the histologic changes of an adenocarcinoma, but there were no metastases, no cachexia and, therefore, real malignancy could not be proven.

9. From a number of reasons which present themselves against the theory of a parasitic cause of carcinoma, I would call attention to only one that appeals to me most forcibly: it is the non-infection of the cells and organs invaded by metastasis. If parasites were the cause of carcinoma they would infect the cells of the organs, and whose cells would participate in the growth, but they never do.

DR. LEO LOEB agreed with the conclusions of the essayist, especially as to the place where carcinoma originates. In a large number of observations made on animals, for instance, he found that the principal seat of carcinoma was in the eye. The theory of Dr. Fütterer as to the origin of carcinoma in the stomach could be just as well applied to the origin of carcinoma in the eyes of cattle.

DR. SYDNEY KUH stated that many years ago physicians were taught that one of the most, if not the most important, causes of carcinoma was a continued irritation. He had seen one case demonstrated which seemed to show unmistakably the effect of such constant irritation in producing carcinoma. It was a case of carcinoma of the perineum, and the constant irritation necessary as an etiologic factor was furnished by the patient being a circus-rider.

Therapy of Ointments.

PROF. C. S. N. HALLBERG presented a paper on this subject. He stated that the vehicles for ointments have, as a rule, been selected without any discrimination as to the therapeutic character of the vehicle per se. Many observers have shown the necessity for distinction in the choice of various fats, oils and waxes, both of animal, vegetable and mineral derivation, which are employed as the "basis," or more correctly the vehicle for ointments and allied preparations. From the researches of J. V. Shoemaker and many other observers, the ratio of absorbability of the various fats, as indicated by the general therapeutic purpose of the different ointments, may be classified as follows:

1. *Epidermatic*: Protective, emollient, antiseptic, counter-irritant, germicide and parasiticide ointments require a non-absorbable vehicle, viz., petrolatum.

2. *Endermatic*: Cooling, anodyne, alterative, local-irritant, resolvent, sedative and stimulant ointments require absorbable fats, such as lard, suet, fixed oils and waxes of animal and vegetable origin. These become quickly rancid unless carefully prepared and preserved, and some of them are being discarded for mixtures less liable to decomposition and change, such as cacao-oil and wool-fat (lanolin). The oleates are also useful.

3. *Diadermatic*: Constitutional or systemic, directly absorbable. For ointments applied by inunction of mercury, iodin, iodids, etc., the vehicle is hydrated wool-fat (Adeps lanæ hydrosus, U. S. P.) or lanolin.

Between these generalizations there may be many modifications, such as wool-fat and petrolatum mixtures as substitutes for lard, owing to their immunity from rancidity.

In dermatology, ointments of the two first classes would alone be indicated, the purified petrolatums of different melting points affording a range of consistencies for the various epidermatic uses of ointments. Pure and carefully rendered leaf lard and mutton suet, benzoinated according to the official process, furnish excellent vehicles for the endermatic effects, but they are prone to rancidity and reaction with mercurials and other agents required for incorporation. According to Shoemaker, the oleates penetrate into but not through the skin, and they are therefore well adapted for endermatic use. This includes the "soluble" oleates or soaps, as well as the oleates of the metals, mercury, lead, zinc, etc., and the alkaloids, or the so-called "insoluble" soaps.

In ophthalmology the principal ointments employed are those of the mercury compounds. The yellow mercuric oxid, the most largely used, should be made with petrolatum. In order to obtain the most intimate division of the oxid it is preferably prepared by levigating the freshly precipitated yellow oxid with the soft petrolatum vehicle. Benzoated and hydrated wool-fats are also used for zinc oxid and for diluting the mercuric nitrate ointment.

For systemic effect, hydrated wool-fat is the most effective vehicle, the rapidity of its absorption having been demonstrated by the presence in the urine in a short time of mercury, iodin, quinin and similar agents, after inunction with ointments prepared with this vehicle. The oleates and soaps, not passing through the skin, should not be employed for diadermatic or systemic effect.

DR. JACOB FRANK read a paper on Ureteral Implantation, which will appear in THE JOURNAL.

OMAHA MEDICAL SOCIETY.

Meeting held in Omaha, Neb., February 12.

Puerperal Sepsis.

DR. C. C. ALLISON, in a paper on this topic, pointed out that puerperal fever follows an infection of some part of the parturient canal. The determining conditions are intrinsic and extrinsic. The most important intrinsic factors are: 1. The rich supply of lymphatics surrounding the vagina and uterus: their anatomic relations as they leave the pelvic floor or uterus to reach the lumbar glands. 2. The relations of the reflected peritoneum to the pelvic organs. 3. The presence of the thick bed of subperitoneal areolar tissue which increases the mobility of this serous membrane and is a dead space encouraging free exudation. 4. As a conservative feature, the pelvic peritoneum is less susceptible to mycotic influences because of the comparative absence of stomata vera upon its surface. The most important extrinsic factors are: 1. The extensive wound, the parturient canal, which affords numerous atria from which an infective lymphangitis may develop. 2. The presence of decomposing material upon this surface. 3. Microbic development of different degrees of infectivity.

We have a vulnerable condition of the patient, and the presence of a surgical wound bathed in effete material leading often to a blood clot deeply situated. We are unable to apply a modern surgical dressing. Clinically, the types of sepsis are sapremic, septicemic, or pyemic. Sapremic symptoms are due to absorption of blood clots, lochia, residual membranes or of toxins, due to surface suppuration or to inflammation of the vagina or of the endometrium. In the latter form, we meet with infective thrombosis of the vessels followed by extensive gangrene involving the entire uterus. The sapremic symptoms are early pyrexia, full pulse, free, offensive lochia, a small amount of pain followed by free perspiration and, in favorable cases, a crisis. In unfavorable cases, superficial suppuration is present, the general symptoms are more severe, the temperature and pulse are farther from the normal, local tenderness is greater and the secretions are more impaired. This is the beginning of a septic adenolymphangitis. The vessels are fed by ulcerated areas of some portion of the canal. This lymphangitis is a common attendant on peritonitis, and there is fixation of the pelvic organs due to extensive exudate. Examination

shows the uterus fixed, the abdominal muscles rigid, a boggy mass in the vaginal vault, a lessened discharge, a remittent fever and well defined pelvic pain. Treatment demands the use of the douche to remove decomposed matter from the vagina or uterus and the sterilization of any local, ulcerated surface. Carbolic acid followed by alcohol is the best caustic. Retained membrane or placenta should be removed by gentle curettage. In most cases, the pelvic and lumbar glands are engorged but not actually broken down, and yet vaginal drainage behind the uterus is a most logical therapeutic aid. Uterine curettage alone is not sufficient, nor is drainage of Douglas's cul-de-sac alone; the best results are obtained from the use of the two combined. When there is active sepsis, slight jaundice, rapid pulse, variable temperature, an enlarged abdomen, a soft uterus with a greenish cervix, we may know there is a septic thrombosis and gangrene of the uterus, a condition very rare, due to the streptococcus and fatal unless the uterus is removed by vaginal section.

Puerperal septicemia shows severe shock, severe rigors and a feeble pulse. The micro-organisms pass directly into the blood, overwhelm the patient and yet cause little distress. These cases are usually fatal and too much, rather than too little, local treatment is apt to be employed.

JOHNS HOPKINS HOSPITAL MEDICAL SOCIETY.

Meeting in Baltimore, Md., February 4.

DR. Howard A. Kelly, president, in the chair.

Obstructive Jaundice with Xanthoma Multiplex.

DR. WILLIAM OSLER exhibited a woman aged 39, who had typhoid fever with cholecystitis in 1897. She has had three attacks of biliary colic since that and a jaundice which still persists, and has had several chills. A diagnosis of gall-stone in the common duct has been made and she is to be operated on. An unusual feature in the case is a xanthoma multiplex. Numerous small patches, like pieces of chamois skin set in the skin are scattered over the hands, axilla, neck, toes, elbows, back, joints, etc., chiefly folds of skin and exposed parts. In places they form distinct tuberous elevations, in others flat patches—*x. planum*. There is one small patch on the mucous membrane of the mouth. Occasionally they completely disappear. The condition is never serious and it is hoped it will disappear after operation.

Case of Arsenical Neuritis.

DR. FLORENCE SABIN reported the case of a young woman who entered the hospital two months ago, after having taken 3i of rough on rats. She remained well for two hours, then began to vomit. The stomach was washed out repeatedly and arsenical antidotes with castor-oil given. There was no further symptoms and she left the hospital five days later. On going upstairs, when she reached home, she felt a numbness in her feet. For six days she had fever with painful micturition. The numbness increased and double foot and wrist drop developed. She was unable to feed herself. There was degenerative reaction, some thickening of the skin on the soles and scaling of the palms. The slightest touch of the feet gives pain and there is also very marked tenderness of the calves and abdominal muscles, but no edema.

DR. OSLER reported a case of arsenical neuritis following the medicinal administration of the drug to the amount of 3i and 3ii.

DR. HURD reported one from the ingestion of an uncertain amount of the drug taken with suicidal intent.

Case of Pemphigus Vegetans.

DR. L. P. HAMBURGER exhibited a white man, a farmer, aged 52, on whom this affection began one year ago with blisters in the mouth, followed by ulcers. The pemphigus appeared in June, 1900, beginning in the groin as little pimples. He was treated with mercury and iodid without result. He has lost 75 or 80 pounds, has new lesions in the mouth, nostril and on his tongue, resembling mucous patches, also a discharge from the right ear. A syphilitic history can not be made out, but he has had malaria and there has been pulmonary tuberculosis on his mother's side. Fungating masses are seen in the axillæ and groins, and large erosions over the back. There is much salivation.

Ovarian Organotherapy.

DR. WILMER KRUSEN, of Philadelphia, read a paper on the use of the ovarian extract, 5 grs. a day, in 100 cases of amenorrhea and other pelvic disorders. While he met with some striking results, on the whole, the treatment proved a failure, and no definite reliance is to be placed on the agent. No benefit was seen in amenorrhea and dysmenorrhea, but better results in the artificial menopause. It was, however, harmless. The use of the agent is based on a false theory since the ovary is not a secreting organ.

Frequency of Typhoid Bacilli in the Blood.

DR. R. I. COLE reported results of investigations on this point. He removes 8 to 10 c.c. of blood from the arm, using forceps and not touching. Cultures were made in 15 cases, eleven of which were positive, and in six of the eleven the bacilli were isolated before the Widal reaction was positive. The bacilli were found much more frequently, and for a much longer time than is usually supposed. He obtained them in mild more than in severe cases. The method is valuable when the Widal is delayed. The earliest day on which he found the bacilli was the sixth.

DR. WM. OSLER said that there are cases in which the diagnosis could not be possibly made without the blood examination.

PHILADELPHIA PEDIATRIC SOCIETY.

Meeting held February 12.

DR. T. S. Westcott in the chair.

Jacksonian Epilepsy.

DR. J. D. TARGET reported two cases of Jacksonian epilepsy. In one, the patient was 2 years and 10 months old, and had been well until three months before being seen, when it had a convulsion mostly confined to the left leg. During the past few months there has been paralysis of the left leg, which has grown much worse.

The second patient is 8 years of age, and has suffered from whooping-cough and measles. When two years old she had a "nervous" spell. Similar attacks have recurred at intervals and are growing worse. In September of last year the child was late at school one morning, and, frightened because of this, she fell in the hallway, where she was subsequently found. The left leg was paralyzed, and in this part convulsive movements set in. This attack was attended by unconsciousness. Some time later convulsive movements began to affect the right leg, and in this part convulsive movements often occurred every few minutes. The mother has observed that frequently these attacks are at once relieved by the act of micturition.

DR. J. P. CROZER GRIFFITH related the history of a case in which there had been symptoms of brain lesion, with peculiar movements of the limbs and face. In his opinion hysteria is often overlooked in children.

Congenital Cyanosis.

DR. GRIFFITH reported, among other cases, one of congenital cyanosis in a child who was 3 years of age, who had a history of having been subject to cyanosis during crying spells from the age of 3 months. The pulmonary second sound was greatly accentuated, but no murmur was heard. The exact lesion was not known, but it was suggested that there might have been an abnormal arrangement of the blood-vessels.

Gumma of Liver in Child.

DR. D. L. EDSALL reported a case of gumma of the liver occurring in a child 14 years of age. The speaker stated that gumma in late childhood has not been frequently reported. The condition has been repeatedly mistaken for leukemia or malignant growths. The father had possibly had syphilis; in the case of the mother, the history was negative. On admission to the St. Christopher's Hospital for Children, there was subcutaneous edema and effusion into the abdomen and pleuræ. On the left side of the abdomen a mass the size of the hand

could be detected, and apparently was attached to the left lobe of the liver. Liver dulness extended to the navel and there was pain on pressure. Under the influence of specific treatment the mass on the left side became perceptibly diminished toward the second week, and at the end of one month had entirely disappeared. The liver, however, remained enlarged, and the renal symptoms present did not change.

Mastitis from Violence.

DR. EMERY MARVEL reported a case of mastitis which had been due to infection from external violence. In this case the incision and drainage had given entire relief.

DR. T. S. WESTCOTT made a few remarks on the differential modification of the proteid of milk.

NEW YORK ACADEMY OF MEDICINE.

Meeting of the Section on Otology, held February 13.

Operation in Acute Mastoiditis.

DR. E. B. DENCH presented a paper on "The Early Operative Treatment of Acute Mastoid Inflammation." He said that while the presence or absence of fever is of no significance in adults as indicative of the condition of the middle ear and mastoid, it is a symptom of some value in children. The pain is usually, but not invariably, severe. Sleeplessness is one of the most important symptoms, and in any case of middle ear suppuration in which the patient is unable to sleep, whether or not this is attributed to pain, it is important to carefully investigate the condition of the mastoid. In his experience, tenderness of the tip of the mastoid has been present in almost all cases of acute middle ear inflammation occurring in the recent epidemic of grippe. Of the symptoms which warrant operative intervention, tenderness over the region of the antrum is the most reliable, but others must be present to warrant a resort to a mastoid operation. In any case, a narrowing of the deep meatus should be regarded as an exceedingly grave sign, and if it persists in conjunction with mastoid tenderness, the surgeon should not delay operating. A mastoid operation conducted in accordance with the principles of modern antiseptic surgery can hardly be said to be attended by any special risk. Sometimes a free incision into the membrana tympani at an early stage is all that will be required, but when it is evident that the mastoid is involved, the operation should be complete and thorough. The first step should be the opening of the antrum and the establishment of a free communication with the middle ear. The possibility of intracranial involvement in even the most acute cases is one argument in favor of this thorough operation being done in every instance. He would, therefore, operate on these cases very early, limiting all measures at abortive treatment to those seen in the earliest stage, and in which there is simply a fear that mastoid involvement will occur. When there is narrowing of the meatus and well marked mastoid tenderness he does not believe it is prudent to attempt to abort the inflammation; it is far better to keep the patient perfectly quiet and under observation, abstaining from using external applications, which would probably only serve to mask the symptoms. If at the end of twenty-four or forty-eight hours there is no change the surgeon should operate on the mastoid.

KINGS COUNTY (N.Y.) MEDICAL ASSOCIATION.

Memorial to Edward Robinson Squibb.*

DR. JOHN D. RUSHMORE, Brooklyn, presented this memorial: Dr. Edward R. Squibb was born in Wilmington, Del., July 4, 1819. His medical education was received in Philadelphia, at the Jefferson Medical College, and from this institution he was graduated in 1845. He began his medical career as a surgeon in the United States Navy, and those who knew him well can recall with pleasure the relation of his experiences on shipboard. To the end of his life he loved the sea, and no form of relaxation was enjoyed more by him or more beneficial to him than an ocean voyage.

In 1853 he was acting as surgeon in charge of the Naval Hospital in Brooklyn. He had at that time reached in line of promotion the position of past assistant surgeon in the U. S. navy. About 1863 he resigned from the navy, and failing to receive from the government sufficient funds to carry on the investigation and work necessary for the manufacture of pharmaceutical preparations, of which the government was in need, he established a private laboratory, and, to quote from the *Medical News*, "began what has been one of the most valuable life works that this country has known in the history of medicine, for it was medicine itself of which he was master. A chemist and a physician he was, but with all the keen desire of the true scientist to discover remedies and of the doctor to apply them to human ill. Instead of practicing at the bedside with the drugs the names of which he had learned in his medical books, he studied the drugs themselves chemically, physiologically, therapeutically, and sent them out to his brother practitioners in such form that the whole country, in fact the profession of the round world, accepted his dictum, and made his name the standard mark for purity and accuracy in pharmaceutical preparations."

It is fitting that the Kings County Medical Association should do all honor to his memory. He was one of its founders and in defense of the principles on which it is based he took a leading part nearly twenty years ago, when, with many others, he withdrew from the New York State Medical Society and subsequently formed the New York State Medical Association, of which this body is an integral part. He was a man of strong convictions, but no better evidence of his freedom from any strain of intolerance or prejudice can be furnished than his modest and temperate but firm defense of what at that time he thought was right; and his quiet accuracy of statement then, as always, was as far as possible from the blustering confidence that characterizes the support of a prejudice. The position which he took and maintained so sturdily alienated no man's affectionate regard for him, and some of those who differed from him then, bore willing testimony to his worth by their presence at the funeral service which, in its simplicity, accorded with his own wish. He was a member of THE AMERICAN MEDICAL ASSOCIATION, New York State Medical Association, Kings County Medical Association, Metropolitan Museum of Art, the Philosophical Society of Philadelphia, and many other societies of like character.

His death, the immediate cause of which was cardiac dyspnea, occurred on the evening of Oct. 25, 1900, at his home. The following extract from an obituary notice published in the daily press is a touching and worthy tribute to his character: "The death of this well-known maker of medicines is the removal of a sturdy character, a fine thinker, an eminent chemist, and a strong, clear personality. Science, philanthropy, religion and citizenship have lost a bulwark and an ornament in him."

He was a great power in Brooklyn—out of sight. He never advertized. He never made addresses. He wrote only within the lines on the subjects and for the members of his own profession. He abhorred publicity and praise. Yet his influence on medicine, on medical thought, on medical practitioners and sympathetically on public health was not unlike that of the Gulf Stream on climate or of the Nile on soil. Men and women lived and labored, died and won renown here who never knew of him. But those who knew Brooklyn to its elements, to its foundations, who knew medicine to its causes and beginning, knew that this quiet, true, diligent man, this incarnated conscience and this great embodied capacity was veritably a genius, truly a world benefactor, one whom the giants and the literature of medicine round the earth held in almost worshipful veneration.

He was a martyr as well as a marvel of science. Over a generation ago, his devotion to his calling subjected him to injuries from an explosion, by which his life was long in danger, his sight long threatened and his visage permanently and sadly marred. The latter misfortune was the only one that did not pass away. He bore it with dignity, philosophy and fortitude. It increased his congenital aversion to public occasions, but it, by reflex action, sweetened to him the society of friends and the comforts of literature and thought. It in

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nothing affected, except to confirm and augment, his faith in the Divine Goodness, giving as it did, to him, a cross to bear, which he bore in the spirit and love of the Master. To those aware of the causes and of the ordeal, this affliction made his career replete with the power of pathos and eloquent with the pathos of power.

Long ago a wave of adversity rolled over and prostrated this extraordinary man. His medical brethren quietly put him on his feet with a love gift that enabled him to start the world again. His rehabilitation was essential to their sense of security in their own work. Their gift to him was a debt, they felt, not a gift, and not a loan. Not so felt he. As soon as he could, he returned it all with interest to the full. He would owe no man anything, even by implication. His exquisite act of honor has been within the knowledge of the descendants of those whom it was tendered for over a generation. It is permitted to tell it now that he is dead. Said Goethe: "The spirit in which we work is the chief matter." The spirit in which E. R. Squibb worked was worthy of the best ideals of duty and consecration to humanity.

Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment will be answered in these columns.]

Treatment of Blepharitis.

Pyle, as noted in the *Phila. Med. Jour.*, states that two much attention can not be given to the causal conditions; careful attention to refraction, and any disturbance of the oculomotor apparatus should be remedied. If chronic conjunctivitis co-exists, which is the rule, a mild stimulating astringent should be used. He recommends the following:

R.	Acidi borici	gr. xlv	2 66
	Sodii chloridi	gr. x	66
	Zinci chloridi	gr. ii	12
	Aq. destil	℥iv	128

M. Sig.: A few drops to be instilled into each eye three times a day.

He states that all scales and crusts should be carefully removed, morning and night. Absorbent cotton moistened with warm water, warm boric-acid solution or warm bichlorid of mercury solution—1 to 5000—may be used to loosen the accumulated secretions. Any underlying ulcers should be cleansed, the cilia epilated, and the cavities painted with a 2 per cent. solution of silver nitrate. The application of a fatty substance facilitates removal of crusts, softens the skin and prevents further occlusion of the glands. For this purpose he advises the following:

R.	Hydrargyri oxidi flavi	gr. i	06
	Vaselini	gr. iii	18

M. Sig.: Rub in thoroughly a piece the size of a matchhead each morning and night, after having removed the crusts, dried secretions, etc.

Prevention of Gastric Fermentation.

Ewald recommends the following:

R.	Resorcin—resublimed	gr. lxxv	5
	Bismuthi salicylatis		
	Pulv. rhei rad.		
	Sodii sulphatis, āā	℥iiss	10
	Sacchari lactis	℥iv	16

M. Sig.: One-half teaspoonful twice daily.

Ointment for Chapped Hands.

R.	Hydrarg. oxidi flavi	gr. ii	12
	Balsami Peruvianæ	gr. x	66
	Vaselini	℥ss	16

M. Sig.: Apply locally night and morning. If there is itching present two grains of carbolic acid may be added.—Hearn.

For Constipation with Flatulence.

Illoway, in *New Orleans Med. and Surgical Jour.*, recommends the following combination:

R.	Ext. Colocynth. comp.	gr. 1/3	02
	Terebinthinæ—Venice	gr. i	06
	Pulveris aloes Soc.	gr. iss	09
	Ext. nucis vomicæ	gr. 1/4	015
	Ext. hyoscyami	gr. i	06

M. Ft. pil. No. i. Sig.: One such pill twice daily.

Treatment of Acute Gonorrhea.

Dr. Cabot, in *Med. News*, states that if cases come to him for treatment during the first twenty-four hours, they can be greatly relieved, and the gonococci made to disappear from the discharge in the course of a few days. The following silver salt is used:

R.	Argonin	gr. lxxx-℥iiss	5-10
	Aq. destil. q. s. ad	℥iv	128

M. Sig.: Use as a deep injection into the urethra.

Six drams of the solution should be employed and retained within the urethra, first instructing the patient to urinate and wash the urethra out with a warm solution. Other treatment consists in the use of the following internally:

R.	Potassii citratis	℥vi	24
	Aq. destil. q. s. ad	℥iii	96

M. Sig.: One teaspoonful in water three times a day.

Where the case presents a copious discharge the following is given:

R.	Plumbi acetatis		
	Acidi tannici		
	Zinci sulphatis		
	Cupri sulphatis, āā	gr. ii	12

M. Ft. tabella No. i. Sig.: Dissolve one such tablet in four ounces of water and use as an injection after each urination. The importance of the temperature of the injection is emphasized, and he recommends the injection to be given at a temperature of 110 F.

Treatment of Pulmonary Tuberculosis.

The following prescriptions are very adaptable in treatment of pulmonary tuberculosis:

FOR THE SEVERE COUGH.

R.	Codeinæ	gr. iii	18
	Dionin	gr. vi	36
	Acidi hydrocyanici dil.	℥i	4
	Spts. vini Gallici	℥i	32
	Ext. glycyrrhizæ	℥i	4
	Syr. pruni Virginianæ q. s. ad	℥iii	96

M. Sig.: Shake well and take a teaspoonful three or four times a day.

Dionin is a preparation derived from morphin. It is a white crystalline powder, soluble in water and can be used subcutaneously. It contains some of the narcotic principles of morphin, but not to such a degree. It is recommended in same doses as codein and can be used in tuberculosis and bronchial affections.

FOR THE SYSTEMIC TREATMENT.

R.	Creosoti—beechwood	℥ii	8
	Glycerini	℥i	32
	Spts. vini Gallici	℥vi	24
	Tinct. gentianæ		
	Tinct. cinchonæ comp. āā	℥iii	96

M. Sig. One teaspoonful four times a day.

W. J. Robinson recommends that each time the mixture is repeated one dram of creosote be added until one ounce is added. The patient thus commences with two minims of creosote per dose and reaches eight minims.

R.	Creosoti	℥i	4
	Guaiacol	℥ii	8
	Emul. ol. morrhuæ—50 per cent.	℥xii	384
	Syr. hypophosphiti—U. S. P.	℥iv	128

M. Sig.: One tablespoonful three times a day.—*Merck's Archives.*

Treatment of Acute Bronchopneumonia in Childhood.

The Medical Record gives the following outline of treatment by Carriere: Isolate the patient as much as possible, avoid chills, and make the air which the patient breathes aseptic by antiseptic vapors. For this purpose he recommends the following:

R.	Phenol	3v	20
	Thymol		
	Benzoin, āā	3iiss	10
	Alcoholis	℥iii	96
	Aquæ	Oiss	768

He also recommends keeping the respiratory tract in good condition by nasal douches and mouth washes of boric acid, keeping the skin in good condition, keeping the gastrointestinal tract in order by the administration of mild chlorid of mercury. As alimentation he recommends a glass of milk every two hours; bouillon or beef juice to children over eighteen months.

Rhus Glabra in Enuresis.

Dr. J. J. Cassidy states, in the *Canadian Jour. of Med.*, that rhus glabra will prevent incontinence of urine in children. He prescribes it in the following form:

R.	Ext. rhois glabræ flu	3vi	24
	Syrupi simplicis q. s. ad	℥ii	64

M. Sig. One teaspoonful at bedtime. He states that the use of iron as an adjuvant to rhus is important; but the mineral being incompatible with this vegetable astringent he gives it in a separate mixture along with cascara to relieve constipation, and lactophosphate of calcium to relieve irritative dyspepsia. He recommended the following:

R.	Ferri citratis	3iiss	10
	Syr. calcii lactophosphatis		
	Elix. cascaræ sagradæ—arom.—āā	℥ii	64

M. Sig.: One teaspoonful after the noon meal.

The action of rhus glabra resembles tannic acid. The astringent action of the former is exercised upon the bladder.

To Check Hemoptysis.

A. Hecht has employed with success the following pill, in checking hemoptysis in tuberculosis:

R.	Extracti ergotæ	gr. xxx	2
	Pulv. digitalis fol.		
	Ext. hyoscyami, āā	gr. xx	1 30
	Quininæ sulphatis	gr. xxx	2

M. Ft. pil. No. xx. Sig.: Three to five pills may be taken daily. He believes that the real virtue of this combination in producing hemostasis lies in the quinin reinforced by the digitalis.

Lime Burns of the Eye.

W. C. Posey, in the *Ther. Gazette*, states that after removal of all the irritating substance, the lids should be everted and every part of the conjunctiva carefully cleansed with oil or a diluted solution of vinegar, or water alone may be employed. Sugar is sometimes used in concentrated solutions, as cane sugar forms an insoluble compound with lime. Following the chemical neutralization the eye should be thoroughly cleansed with a boric-acid solution, 10 grains to the ounce, and ice compresses constantly applied until all inflammatory reaction has subsided. As there is danger of involvement of the iris, if the cornea is affected a solution of atropin should be dropped into the eye to dilate the pupil, and subsequently the use of olive-oil or castor-oil dropped into the eye will best promote the healing.

Treatment of Chalazion (Stye).

Stazmenski states that the cause of the affection consists in the penetration of microbes into the meibomian gland. The treatment he employs consists in applying the following ointment upon the skin surface of the chalazion and gently rubbing it in every night at bedtime:

R.	Iodi (pure)	gr. xii	72
	Potassii iodidi	gr. xxxvi	2 36
	Vaselini	3i	4
	Aq. destil.	3i	4
	Lanolini	℥ss	16

M. Sig.: For local application.

Treatment of Influenza.

W. H. Thompson, in the *Med. Record*, advocates the use of the following pill:

R.	Ext. aconiti	gr. 1/12	005
	Pulveris opii et ipecac	gr. ss	03
	Phenacetini	gr. ii	12
	Quininæ sulphatis	gr. iss	09

M. Sig: Two such pills to be taken three times a day as long as the fever continues. The dosage is then to be reduced to one pill until the catarrhal symptoms have passed away.

For the coryza and nasal symptoms he recommends the following:

R.	Ext. belladonnæ	gr. 1/4	015
	Camphoræ	gr. ii	12

M. Sig.: One such pill as necessary.

FOR THE PERSISTENT COUGH.

R.	Ammonii bromidi	gr. xx	1 33
	Antipyrini	gr. x	66

M. Ft. Chartula. Sig.: One powder once or twice daily.

Phosphate of Calcium in Scrofulosis.

Hare recommends calcium phosphate in suppurating scrofulous ulcers. Owing to its more ready solubility, he prescribes the lactophosphate of calcium in the following combination:

R.	Syrupi ferri iodidi	3i	4
	Olei morrhuæ	℥i	32
	Syr. calcii lactophos.	℥i	32
	Aquæ calcis q. s. ad	℥iv	128

M. Sig.: Shake well and take from two to three teaspoonfuls after each meal.

Medicolegal.

Five Dollars for Postmortem Examination.—Section 4936 of the Alabama Code provides that a physician or surgeon, who has been subpenaed to attend an inquest, shall be allowed, as a witness, 85, with 81 additional for each mile he may have traveled in attending such inquest, to be collected out of the estate of the deceased, if solvent, and if insolvent, to be paid out of the county treasury. Section 4573 provides that, if the immediate cause of death is uncertain, a physician or surgeon may be summoned to make a postmortem examination, who shall give his opinion in writing as to the cause of death, and shall be entitled to the same fee and milcage, to be paid in the same manner, as for attending an inquest, etc. Each of these sections, the Supreme Court of Alabama says, in the case of Naftel vs. Montgomery County, relate to the same subject-matter, and are to be construed together. But one fee is allowed the physician or surgeon for attending an inquest and giving his professional opinion after examining the dead body, however much labor or skill it may have required, and the fee, therefore, is specifically prescribed. If it be said that this allowance is inadequate, a full answer to the suggestion is that the legislature has prescribed this and no other fee for such services. It often occurs in rendering services to the state and county, that the citizen is inadequately compensated in money, notably in the cases of jurors and witnesses, whose fees, as allowed by law, in many instances, fall short of their actual expenses, to say nothing of the value of their time, their trouble, and losses in business. Their compensation comes mainly from the services they render the county in the interest of law, order and good government; and so does the physician's or surgeon's, when he bestows his skill in the duties required of him in holding inquests, in the interest of the discovery of unlawful homicides and the punishment of the perpetrators of them. In this case, the plaintiff stated at an inquest that he could not give a professional opinion as to the cause of death without holding an autopsy. Thereupon he was directed to hold the same and to make a microscopic examination of the organs of the deceased, which were reasonably necessary to be made in order to determine whether or not death resulted from foul means. Pursuant to such directions from the coroner, he performed an autopsy and made a microscopic examination of the organs of the deceased, being engaged in and about the same for one day and a part of another. The rea-

sonable value of such services in making such autopsy and microscopic examination was fixed at $50. He was paid $5 therefor, by the administrator of the estate of the deceased, and now the Supreme Court of Alabama holds, under the doctrine above stated, that he received the fee allowed him by law, and was entitled to no more.

Could Do No Less than Resuspend Unvaccinated Pupil.—In the South Dakota case of Glover vs. the Board of Education of Lead, the suspension from school, on the 17th of the month, of a pupil who refused to furnish satisfactory evidence of vaccination, was followed by mandamus proceedings. At the hearing, it was tacitly conceded by the board that at and prior to the time the boy was suspended there was no case of smallpox in the city or county, and that its order requiring vaccination was needless, and without justification, as a sanitary or preventive measure, and was issued without cause and without authority of law, and was unjust and oppressive. Upon this admission, and with consent of the board's counsel, a peremptory writ of mandamus was issued, on the 2d of the following month, commanding the school board and superintendent to immediately admit the boy to the public school, as a pupil, without requiring of him a certificate of vaccination or compliance with the order of the board of education requiring pupils of said schools to be vaccinated. Conformable to this mandate, the boy was permitted to return to school, as a pupil, on the 5th. But, in the afternoon of that same day, he was presented with a notice from the superintendent stating that, by order of the board of education of the 3d instant, he was refused admission as a pupil of the public schools of the city until he presented satisfactory proof of his vaccination against smallpox. Thereupon contempt proceedings were begun, based upon the alleged violation of the peremptory writ of mandamus mentioned. The defense was that subsequently to the service of the writ, and before the boy had been readmitted to the public schools in compliance therewith for a day, most alarming sanitary conditions were officially brought to notice by the service of resolutions and orders of the state, county and city boards of health, respectively, showing that smallpox was then prevalent in the vicinity of the city, and requiring the health authorities to exclude all children and pupils from the public schools who failed or refused to furnish satisfactory evidence of vaccination. Under these circumstances, the Supreme Court of South Dakota holds that there was no contempt. In view of the action taken by the various boards of health, no less, it says could be done, and the penalty of the law be escaped. While the earlier resolution was in effect nullified by the mandamus complied with, further proceedings on the part of the board of education, under justifiable conditions, were not forestalled for all time, and the fact that an emergency immediately arose requiring prompt action for the protection of the public from the consequences of a dreadable disease in no manner rendered the board guilty of contempt. The temporary regulation, requiring children to furnish satisfactory evidence of vaccination or remain away from school until the further order of the board, was reasonable, and within the general power of the school board to control, manage and regulate the public schools of the city. Independently of express legislation, a board of education has power, under circumstances like these, to close the schools until the danger subsides, or suspend such as refuse to undergo vaccination.

Concerning the Pennsylvania Medical Practice Act.—The Pennsylvania act of May 18, 1893, the Supreme Court of that state holds, *in re* Campbell, is a valid and constitutional exercise of the police power of the state upon a subject plainly within that power, and urgently in need of control by it. The title of sixty-two words it is certain is not open to criticism for brevity or vagueness. But it says that the purpose of the act is indicated in the phrase "to regulate the practice of medicine and surgery." This gives notice to any one desiring to enter the practice that its provisions do or may concern him. Nothing more is required. Nor does the court consider that the act is in contravention of the provisions of the state constitution vesting the appointing power in the governor, because, it holds, there is nothing in the constitution which prohibits the legislature, in creating an office, from fixing the qualifications of the incumbent and thereby limiting the choice of the governor in the appointment to the class of persons so qualified, which is all this act does in regard to the offices which it provides for. Neither does it think that the act violates the constitutional prohibition against any local or special law "granting to any corporation, association, or individual any special or exclusive privilege or immunity." It says the act is not local or special. It embraces the whole state, and applies to all persons of every school or system of medicine desiring to enter on the practice. The designation of the three medical societies from whose members the board of examiners are to be selected is not the grant of any special or exclusive privilege to those societies, but a convenient method or securing a competent and qualified class from whom the examiners may be selected. But, even if it should be regarded as a special privilege to those societies, it would not be unconstitutional. The board of examiners are state officers, charged with the administration of the state's police power on the subject of admission to the practice of medicine. The constitutional provision quoted does not apply to such officers. The state may choose its own agents in its own way to carry out its commands in regard to the taxing or police or other general powers. The act, the court further holds, by clear implication provides for registration by entry of record in a county medical register kept by the prothonotary. This register, while not a judicial record, is a public record of matters of public interest and concern, directed to be kept open and accessible for the information of the public, put from motives of public policy under the sanction and control of the court, the duty of so keeping it being imposed on the prothonotary as an officer of the court, in the performance of which duty he is necessarily subject to the orders and control of the court. So, if a licensed physician applying for registration should be refused without good reason, the court, on mandamus or by summary order, would compel its officer to perform the duty laid upon him by the statute; and if he has, through misinformation, made an erroneous entry not warranted by law, the court has power to compel its amendment or cancellation. It is immaterial that he who petitions to have the record corrected should have no personal interest in the matter. It is also irrelevant to a proceeding to have a medical register corrected by striking off a name that on a trial for practicing medicine in violation of the statute the person whose right to registration is questioned was acquitted, it being charged that the entry was procured by falsehood and fraud.

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Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

Medical News (N. Y.) February 16.

1 *A Hair-Cast of the Stomach; Its Successful Removal by Laparotomy. Nathan Jacobson.
2 *Scurvy and Rickets in Young Children. H. A. Hare.
3 *The Relation of Tuberculosis to the Tenement-House Problem. Arthur R. Guerard.
4 *Treatment of Lupus. H. Rockwell Varney.
5 A Report of Some Cases of Abdominal Surgery, With Remarks on the Diagnosis of Carcinoma of the Cecum and the Surgical Treatment of Carcinoma of the Liver and the Gall-Bladder. (Continued.) Charles G. Cumston.
6 Pregnancy and Typhoid. G. H. B. Terry.
7 Foreign Body in the Urethra. H. W. Clouchek.

Boston Medical and Surgical Journal, February 14.

8 A Case of Cesarean Section for Complete Placenta Previa. C. H. Hare.
9 *The Woolen Yarn Truss in Infantile Inguinal Hernia. E. S. Boland.
10 *Disinfection Within or Without the Body in Diphtheria. M. A. Veeder.
11 A Case of Idiopathic Dilatation of the Colon. Maurice H. Richardson.
12 Placenta Previa Centralis: Report of a Case. John W. Dewis.
13 A Case of Complete Placenta Previa. Frederick Coggeshall.

Philadelphia Medical Journal, February 16.

14 Perforating Ulcer of the Stomach; Operation; Recovery. John H. Musser and Henry R. Wharton.

15 *Recent Progress in the Treatment of Acute Lobar Pneumonia. James K. Crook.
16 *Periodical Insanity. A. R. Defendorf.
17 Medical Examination of School Children. Edward M. Greene.
18 *Tetanus Following Clean Operation Wounds. Joseph B. Bissell.
19 *Adhesion of the Soft Palate to the Posterior Wall of the Pharynx. Augustus Koenig.
20 *Treatment of Erysipelas. N. G. Keirle, Jr.

New York Medical Journal, February 16.

21 *Stethophonometry. Albert Abrams.
22 Septicemia in Young Chickens. Leo F. Rettger.
23 *A New Portable and Inexpensive Ophthalmometer. William F. Alken.
24 *Combined Surgical Operations in Female Subjects at a Single Séance. R. Stansbury Sutton.
25 The Normal Declinations of the Retinal Meridians. (To be concluded.) George T. Stevens.
26 *A Study of Buboes and Their Treatment. Frederick Griffith.
27 Hysterical Anesthesia and Analgesia. B. C. Loveland.

Medical Record (N. Y.), February 16.

28 *The Problem of Appendicitis from Medical and Surgical Points of View. Robert Abbe.
29 *The Causes of Failure of Compensation in Diseases of the Heart. Morris Manges.
30 *Strabismus and Its Management. J. H. Woodward.

Cincinnati Lancet-Clinic, February 16.

31 *The Prognosis and Treatment of Lateral Curvature. Albert H. Freiberg.
32 Pruritus and Eczema of the Anus and Rectum. George J. Monroe.

St. Louis Medical Review, February 16.

33 Best Methods for the Treatment of the Insane. Edward C. Runge.
34 *Influenza, More Especially Its Effects on the Respiratory Organs and Accessory Nasal Sinuses. William Bayard Shields.

Pediatrics (N. Y.), February 1.

35 *Congenital Hypertrophic Stenosis of Pylorus, With an Account of a Case Successfully Treated by Operation. Jas. H. Nicoll.
36 Smallpox in Children. Frederick Leavitt.

Okalahoma Medical Journal (Guthrie), January.

37 Some Points in Early Diagnosis and Treatment of Locomotor Ataxia. John W. Duke.

Hot Springs (Ark.) Medical Journal, February.

38 *Medullary Narcosis. W. L. Rodman.

Cleveland Medical Gazette, February.

Symposium on Nephritis:
39 Acute Nephritis—Symptomatology. Oren E. George.
40 Diagnosis. A. J. Skeel.
41 Laboratory Diagnosis of Nephritis. Martin Friedrich.
42 Prognosis. F. A. Payne.
43 Treatment. John Perrier.
44 Acute Hemorrhagic Nephritis in Children. Edward P. Carter.
45 Acute Alcohol Nephritis. H. B. Ormsby.
46 Acute Nephritis from Chemical Toxic Agents. John G. Spenzer.
47 Acute Syphilitic Nephritis With Report of Two Cases. Charles J. Aldrich.
48 Treatment of Nausea and Vomiting Following Anesthesia After Abdominal Operations. Hunter Robb.
49 The Sanitary School-Room. L. K. Baker.

American Journal of Medical Sciences (Philadelphia), February.

50 *A Clinical Study of Diphtheria. Fred Grant Burrows.
51 *Observations on the Character of the Cells in the Exudation in Acute Interstitial Nephritis, With Special Reference to the Presence of Cells With Eosinophilic Granulations. W. T. Howard, Jr.
52 *Rare Cardiac Anomalies. Ludvig Hektoen.
53 Report of a Case of Blastomycetic Dermatitis. Henry W. Stelwagon.
54 Refractory Syphilis, With Report of a Case Utterly Resistant to Specific Treatment. Jay F. Schamberg.
55 *Physiologic Dilatation and the Mitral Sphincter as Factors in Functional and Organic Disturbances of the Heart. Morton Prince.

Brooklyn Medical Journal, February.

56 Wounds of the Liver and Gall-Bladder. James P. Warbasse.
57 Inflammation of the Gall-Bladder and Bile-Ducts. H. Beeckman Delatour.
58 Cholelithiasis. Mathias Figueira.

Archives of Pediatrics (N. Y.), February.

59 *Hemorrhage Into the Suprarenal Capsule in Still-born Children and Infants: Report of a Case Showing Rupture of the Sac and Escape of Blood Into the Perirenal Tissues and Peritoneal Cavity. S. McC. Hamill.
60 *The Care of Children With Mitral Lesions. Geo. M. Swift.

Medical Council (Philadelphia), February.

61 Disorders of the Sexual Function in Man. A. H. P. Leuf.
62 The Injection Method for the Relief and Cure of Hernia. C. Fletcher Soude.
63 Catarrhal Jaundice. Charles F. Hope.
64 A Case of Gall-Stones. Ralph Browning.
65 Scarlet Fever. H. J. Richardson.
66 The Female Bladder. A. L. Russell.
67 Mustard. W. O. Bunnell.
68 Treatment of Diseases of the Nose, Throat and Ear by the Family Physician. E. B. Gleason.
69 Corns. Lester Keller.
70 *Unclean Mouths. M. H. Fletcher.

Bulletin of Johns Hopkins Hospital (Baltimore, Md.), January.

71 *The Removal of Pelvic Inflammatory Masses by the Abdomen After Bisection of the Uterus. Howard A. Kelly.
72 *Abstract of the Bacteriology of Cystitis, Pyelitis and Pyelonephritis in Women. Thomas R. Brown.
73 *The Intrinsic Blood-Vessels of the Kidney and Their Significance in Nephrotomy. Max Brodel.
74 Notes on Aerobic Spore-Bearing Bacilli. W. W. Ford.

Medical Sentinel (Portland, Ore.), February.

75 The Treatment of Common Mind Troubles. John W. Givens.
76 Oöphorectomy and Hysterectomy for Epilepsy. Walter Lindley.

Obstetrics (N. Y.), January.

Symposium on Pregnancy:
77 *Physiology and Folklore of Pregnancy. Harriet C. B. Alexander.
78 *The Mutual Influence of Pregnancy and the Infectious and Constitutional Diseases. Robert B. Preble.
79 *Toxic Habit and Toxic Occupation Aspects. C. S. Bacon.
80 *Venereal and Dermic Aspects of Pregnancy. W. L. Baum.
81 *Renal Aspects of Pregnancy. Charles E. Paddock.
82 *Neurologic Aspects of Pregnancy. D. R. Brower.
83 *Psychiatric Aspects of Pregnancy. W. G. Stearns.
84 *Psychiatric Aspects of Pregnancy. C. A. Wood.
85 *Laryngologic Aspects of Pregnancy. Edward T. Dickerman.
86 *The Teeth of Pregnancy. E. S. Talbot.

Medical Dial (Minneapolis, Minn.), February.

87 Tuberculosis of Bones and Joints. Knut Hoegh.
88 Treatment of Bronchopneumonia. William Fitch Cheney.
89 Case of Gunshot Wound. J. H. Fonger.

Annals of Surgery (Philadelphia), February.

90 *Gunshot Wounds in the Philippino-American War. E. F. Robinson.
91 *Sarcoma of the Uterus. Van Buren Knott.
92 *Contribution to the Surgery of Multilocular Renal Cyst. Carl Beck.
93 Cicatricial Stricture of Pharynx Cured by Plastic Operation. B. Farquhar Curtis.
94 *The Improved Technique in the Operative Surgery of Carcinoma of the Stomach. Willis G. Macdonald.
95 Cases of Compound Complicated Fracture Illustrating the Value of Operative Interference in the Treatment of These Injuries. Henry R. Wharton.
96 *A Method of Performing Anastomosis of Hollow Viscera by a New Instrument. M. O'Hara, Jr.
97 1. An improved Brace for Head Extension. 2. A Hard Rubber Spring Brace for Lateral Curvature. Joseph M Spellissy.

Kansas City Medical Index-Lancet, February.

98 Two Hundred and Thirty-seven Consecutive Abdominal Sections. Charles G. Davis.
99 Cerebral Hemorrhage. John Punton.
100 Report of a Case of Injury to the Shoulder-Joint. W. A. Bracekleln.
101 The Value of Antiseptic Inhalation in Pneumonia. L. W. Dallas.
102 Report of a Case of Paralysis of the Intrinsic and Extrinsic Ocular Muscles Due to Traumatism. Flavel B. Tiffany.
103 Spanemia. Virginius W. Gayle.

Annals of Otology, Rhinology and Laryngology (St. Louis, Mo.) November, 1900.

104 *Middle Ear Disease in Its Relationship to the Cranial Cavity. Otto J. Stein. With Abstracts of Five Cases. Carl Barck.
105 Report of a Case of Ulcerative Laryngitis Simulating Tuberculosis Which Promptly Yielded to Mercurial Treatment. Samuel Kohn.
106 *On the Correction of Old Traumatic Depressions of the Nose by Subcutaneous Plastic Operation. J. L. Goodale.
107 A Case of Persistent Laryngeal Obstruction in a Child. Samuel E. Allen.
108 A Case of Epidermoid Cancer of the Soft Palate. Carolus M. Cobb.
109 Papilloma of the Vocal Cords—A Report of Five Cases. W. L. Bullard.
110 The Surgical Treatment of Otic Sclerosis. Ricardo Botey.

111 *The Pathology, Diagnosis, Special Prophylaxis and Treatment of Tuberculosis of the Middle Ear. Seymour Oppenheimer.
112 Leucoplakia. J. L. Goodale.

American Practitioner and News (Louisville, Ky.), January 15.

113 Sequelæ of Scarlet Fever: Prevention and Treatment. John G. Cecil.
114 Fissure in Ano. T. W. Stone.

Colorado Medical Journal (Denver), January.

115 *Scarlet Fever and Quarantine. E. A. Kickland.
116 *Diabetes Mellitus—Report of a Case. R. F. Graham.
117 The Pathology of Infection. Wm. N. Beggs.

St. Louis Medical and Surgical Journal, February.

118 *Testimony of the Bones from the Madeleines of the Middle Ages on Confusion of Leprosy With Syphilis in Pre-Columbian Europe. Albert S. Ashmead.
119 *Lymphatic and Portal Affections Following Appendicitis. John C. Munro.
120 The Cutaneous Absorption of Methyl-oleo-salicylate. Ed. Gros.

Columbus Medical Journal, January.

121 Diagnosis of Pelvic Diseases. C. M. Taylor.
122 *Enuresis Caused by Eye-Strain. J. A. Frame.
123 Combination of Drugs. John Rauschkolb.
124 Railway Surgery in America. Clark Bell.

Medical Examiner and Practitioner (N. Y.), January.

125 An After-History of Applicants Rejected for Life Insurance. Andrew MacPhail.
126 Life Insurance Examinations. W. A. Nicholson.
127 Should Life Companies Discriminate Against Women? John K. Gore.
128 Illegitimacy. Lady Cook.

New Orleans Medical and Surgical Journal, February.

129 Additional Notes on the Nature and Treatment of Leprosy. R. H. L. Bibb.
130 Operation for Severe Perineoscrotal Hypospadias. F. W. Parham.
131 Spinal Analgesia. E. D. Martin.
132 Report of a Case in the Practice of Obstetrics. A. G. Wille.

Memphis Medical Monthly, February.

133 *Rectal Obstipation and Its Treatment. A. B. Cooke.
134 *Four Cases of Membranous Croup Treated With Antitoxin. T. J. Happel.
135 *Some Rectal Troubles. A. E. Cox.
136 Diphtheria. W. T. Watson.
137 The Treatment of Pneumonia, Past and Future. J. C. Young.
138 Extensive Skull Fracture With Recovery. A. J. Richter.

Northwestern Lancet (Minneapolis, Minn.), February 1.

139 Tuberculosis of Tubes, Ovaries and Peritoneum. R. E. Cutts.
140 Penetrating Injuries of the Eyeball. William R. Murray.
141 Compound Fracture of the Skull. J. Clark Stewart.
142 A Case of Subcoracoid Dislocation of the Humerus, With a Fracture of the Surgical Neck. A. E. Benjamin.

Atlanta Journal-Record of Medicine, February.

143 President's Address at the Atlanta Society of Medicine. T. V. Hubbard.
144 The Physiological Therapeutics of Dipsomania. C. A. F. Lindorme.
145 Recent Observations on the Treatment of Gonorrhea. Thomas C. Leitch.
146 *Attention Called to a Most Invaluable Medicine. N. F. Howard.
147 The Urine of the Horse in Pneumonia. M. D. Hoge, Jr.

AMERICAN.

1. **Gastro-intestinal Hair Cast.**—Jacobson reports and illustrates a hair cast of the stomach, extracted from a child 11 years old, who had been in the habit of swallowing her hairs. The symptoms were colicky pains, especially at night, constipation, gastric disorders, etc. The diagnosis was not clear by physical examinations, and exploratory operation was performed. The cast was peculiar in its showing a superior curve, almost rectangular. The author reviews the literature of similar cases at length, and calls attention to the fact that while the operation in cases where it was found was always experimental and exploratory, or was performed with the expectation of finding other conditions, the patient has in every case made an uninterrupted recovery.

2. **Infantile Scurvy and Rickets.**—The recognition of scurvy in young children is comparatively recent, the earlier errors in diagnosis being largely due to the fact that the principal symptoms confused it with articular rheumatism and the characteristic symptoms of petechiæ, spongy gums, etc., are not always present. The peculiar characteristics of scurvy in infants are the very grave appearance of the child in its severe forms, the rapidity with which it recovers under proper treatment and the rarity of fatal termination. Three cases are described illustrating the different types of the disease, one in which spinal disease was diagnosed, another where meningitis was suspected and the third case where the child suffered from almost complete paraplegia with the characteristic scorbutic symptoms. Hare remarks also on the fact that scurvy is a disease of the well-to-do, while rickets is a disorder of the poor, and he believes that the latter is largely due to general deficiency of nutrition and defective development rather than to any lack of the proper constituents in the food.

3. **Tuberculosis.**—The house problem in tuberculosis is treated of by Guerard, who notices the unhygienic conditions in tenement houses, lack of ventilation, overcrowding, etc. The facts are given as regards houses where tuberculosis seems to be a permanent infection, and he expresses the opinion that in some cases it may be that only destruction of the tenement will suffice to destroy the germs. The rules which should be followed as regards housing, sufficient air space, baths, and the hygienic problems generally are noticed. The author concludes his paper with a discussion of the financial aspects of the case, the money lost, loss of work, sickness and loss of life.

4. **Lupus.**—Varney has found the most satisfactory surgical treatment in lupus to be the curette, with which one can clear away the broken-down cheesy, degenerated tissue, leaving the healthy tissue as a foundation for growth. Electrolysis, in the few cases he has tried it, has given good results. Nitrate of silver is a valuable remedy, also arsenical paste which destroys diseased tissues only. Pyrogallic acid is also mentioned, but the special object of his paper is to present the therapeutic value of the *x*-ray, pointed out by Dr. Pusey, of Chicago. It has various advantages, it is painless, the exposure is short, and the area may be completely controlled. He reports a case in which this method was employed with good results.

9. **Woolen Yarn Truss.**—The use of the woolen yarn truss in infantile inguinal hernia is recommended by Boland, who gives directions for making it, as follows: "Measure with a tape line the distance around the child on the plane of the pelvic inlet, beginning with and coming back to the hernia, then carry the line down on the perineum and up and out in the gluteofemoral crease and almost to where it would touch the girdle part. Mark this length on the woodwork of the door or window casing, and at each end of it drive in a three-inch nail half-way to the head. Over these nails wind the worsted, previously rolled from the skeins as bought, just tight enough to keep from kinking, and use thirty to forty threads according to size and strength required. Remove the skein, tie in the two loose yarn ends, and in one end loop a foot of white tape, and the truss is ready." For applying it: "Carry it around the child with the long end at the affected groin, pass this longer end through the other loop and draw the long end down under the corresponding thigh and out and up in the gluteofemoral crease and tie the tape to the girdle. . . . The doubled and loosely twisted yarn is so elastic that it will keep up a constant hug that will make up any slack made by the motion of the child." He sums up his paper by saying that the use of some retentive will hasten and insure the natural tendency to cure. The worsted truss is easily made to measure at the bedside, is cheap, comfortable, can be worn by any infant, but with this as with any other truss vigilance and intelligence must counteract the associated causes of hernia.

10. **Disinfection in Diphtheria.**—Veeder notices the possibility of infection of physicians treating cases of diphtheria, and advises the use of precautions. The routine he has adopted is: to be provided with squares of antiseptic gauze and corrosive sublimate tablets. A square of such gauze can be held over the mouth and nostrils with the left hand while the right is free to use the tongue-depressor and swab. Both hands and face should be wet with sublimate solution before and after examination, and the gauze be burned after use. This, together with frequent spraying and cleansing of the mouth, throat and

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nostrils, and bacteriologic testing, offers a very complete security against receiving or carrying infection. He notices the diphtheroid or staphylococcic sore throat as being the favorite tract for diphtheria infection, therefore all diphtheroid throats should be considered as suspicious.

15. **Pneumonia.**—No routine treatment for pneumonia exists, but there are many approved therapeutic measures. Among these Crook mentions the patient's surroundings, a cheerful, well-ventilated room with temperature between 65 and 72 degrees, digestible liquid food and cold applications to the chest. Poultices are not much advocated of late, blood-letting is coming more in favor in florid cases and where the heart is seriously embarrassed by the pulmonary obstruction, or cyanosis or dyspnea prevails. The hypodermic injection of saline solution in connection with the blood-letting is advised by Michel. Arterial sedatives are less favored than formerly, though they still have some advocates. Routine purgation and antipyretics are generally condemned, and the profession is still at variance to some extent as regards the use of opiates. Crook thinks that on the whole they should not be resorted to until insomnia, pain or restlessness renders them necessary. Alcohol is losing favor and the weight of opinion is against the use of digitalis. Oxygen inhalations are safe, but their usefulness is disputed. As regards specific medication to destroy the pneumococcus in the blood, there is some evidence of the value of the salicylates, creosotal and the silver salts internally. Serumtherapy of the disease is still in the experimental stage, a standardized serum is not yet available, and the progress in this direction during 1900 has been very slight.

16. **Periodical Insanity.**—According to Defendorf periodical insanity is one of the most frequent of morbid psychoses, readily diagnosed in first attacks and not associated with any rapid general mental deterioration. The prognosis is not good as the attacks are likely to recur with varying intervals, throughout the patient's life.

17. **School Inspection.**—Greene describes the system of medical examination of school children in Boston. The inspectors are generally chosen from among the younger members of the profession and, though the pay is small (only $200), the positions are honorable and desirable and may indirectly help in building up the physician's practice. Monthly reports are required to the secretary of the board of health, which generally supervises the work. An association of inspectors has been formed, presided over by the chairman of the board, for aiding in the work by profitable discussion or to further mutual co-operation. Children suffering from contagious diseases and those from non-contagious but more or less disabling disorders are especially the objects of inspection; the inspectors are provided with diphtheria culture outfits, and every precaution is taken against possible contagion. Children affected with tuberculosis are advised to stay away from school, though it is not said that they are excluded. The vision of pupils is another important subject investigated, and where defect appears the parents are advised to consult oculists. Still other advantages from the inspection have been the calling attention to points of cleanliness, etc.

18. **Tetanus.**—Bissell reports two cases of tetanus following apparently clean surgical wounds. He is inclined to suggest a long-latent, old infection to account for the disease here, and refers to cases reported by Kaposi, Cheeseman and others as supporting this view.

19. **Adhesion of Soft Palate.**—Koenig's case was one of adhesion of the soft palate to the posterior pharyngeal wall, producing complete nasal obstruction. The condition was entirely relieved by operation under local cocain anesthesia. After the operation a gauze plug was used for the first two days, and then it was replaced by a hollow silver plug fitted to the cavity, through which nasal breathing was possible. Healing was complete in three weeks.

20. **Erysipelas.**—Keirle reports great success in the treatment of erysipelas, according to the following plan: The affected area is first *enclosed* in a painted ring of tincture of iodin. The ring is not to be started *at* the margin of the reddened area, but *2 to 3 inches from it*, and a sufficient number of coats should be applied to cause a slight desquamation of the skin. At the same time the whole surface enclosed in the ring is to be covered with an ointment of ichthyol, about 1 dram to 1 to 2 ounces of vaselin. This is covered with a piece of gauze and a hot stupe applied and changed about every four hours. At the end of twelve hours the ichthyol ointment is washed off and a fresh coat applied, and if the iodin has not had sufficient effect, one or more new coats are applied. Internal treatment may or may not be instituted, as the result is the same in either case. Although both iodin and ichthyol are used in the treatment of erysipelas the author has not heard of any cases treated as above. Three or four days of this treatment have not failed to stop the trouble, the inflammation not crossing the painted line of iodin except in one case, in which another ring painted further out, and the same treatment as at first effectually stopped the spread of the trouble. He does not claim originality for this treatment, but can not remember seeing it described elsewhere.

21. **Stethophonometry.**—Abrams remarks in regard to the difficulties of testing the different degrees of intensity, etc., of sounds and the methods of their measurements. The method by the use of rods, which was reported by him in an earlier article, is inconvenient and somewhat impracticable, and the other method, by measuring by different points of the chest to which the sounds are conducted, is relatively inaccurate. He has, therefore, devised a stethophonometer, which he illustrates. It is constructed on the disc-valve principle and is composed wholly of hard rubber. There are three perforated discs in its composition, the middle disc being made to revolve by means of a handle attachment, so that its opening may be made to approach or recede from the opening in the other two discs, thus increasing the resistance to transmission of the sound wave. On the face of the disc nearest the auscultator is a scale by which the intensity of the chest sounds may be measured. On one side of the disc the bell of the stethoscope is fixed and on the other side a plug, the size of which may be varied to fit any stethoscope. This plug is perforated and in the perforation may be fitted a rubber cork, if necessary, to offer still further resistance to sound. This, however, is rarely necessary. This stethophonometric attachment can be easily removed when found necessary to use the stethoscope in the ordinary method.

23. **New Ophthalmometer.**—Aiken describes a new ophthalmometer which he thinks offers practically as favorable results, at less expense, than the original expensive and bulky instrument employed.

24. **Combined Gynecologic Operations.**—Sutton notices the fact that some years ago it was customary, when double operations were required, to make only a single one at the time with the result that the patients were sometimes laid up for weeks or months or recovering from one operation only to pass into another. He points out that of late it has become customary to do a number of operations under one anesthesia, and he reports fifteen cases and the time employed in each. Various operations, such as curettage, tracheotomy, craniotomy, laparotomy, etc., are all performed at once.

26. **Buboes.**—After describing the anatomy, pathology, diagnosis, etc., of the various forms of buboes, Griffith details his own treatment, which is to hurry up the formation, using hot fomentations, and when suppuration is demonstrated by fluctuation, puncture and wash out, using thorough syringing with hydrogen dioxid and inserting a drain. Dry dressing is applied, sufficient to absorb the discharge. The next dressing and washing should be done in twenty-four hours, and after that at intervals of two to four days. The hygiene of the patient should be looked for. Alcohol, fried, greasy, and indigestible foods should be avoided. He does not offer this as an original method of treatment, but it is one that has met with success in his hands and which has his approval.

28. **Appendicitis.**—The conditions of appendicitis are described in detail and very completely illustrated by Abbe. There is evidence that the stone does not begin to form until

the stricture has contracted to so small a caliber that the exfoliated epithelium is unable to pass into the colon in the ordinary way. This debris of epithelium, irritating by its presence, begets proliferation, pus cells, etc., and sets up the mischief in the appendix. The structure of concretions in all the cases he has found has been epithelial, though rarer cases may occur when food particles may be their basis. He holds that the attack of appendicitis recognized by the patient is in most cases the end of the disease, the stricture having existed for many years. As regards the difference between medical and surgical treatment, there is no doubt that many do get well under medical care alone, but the surgeon can say that the vast number of so-called medical cures are mild attacks and the disastrous ones only rarely give spontaneous cure. This may occur with ulceration into the bowel or even the bladder. He discusses the recuperative power of the stomach under special conditions, the life of the cells, etc., at some length.

29. **Cardiac Compensation.**—Manges reviews the cardiac disorders in regards to the question of compensation, and sums up by stating that hearts which have been attacked by actual organic valvular diseases from any cause have no longer an absolutely normal myocardium, since the latter has been involved in various foci. Any defect in the valvular apparatus is compensated for a longer or shorter period by hypertrophy, which in turn is followed by changes in the parenchymatous muscle cells, of interstitial connective tissue, or both, or in the ganglion cells or the nervous fibers, or both, which may finally result in such a weakening of the heart walls that the organ is no longer able to propel the blood in normal amounts, as needed by the system. The causes of this may be either one or both, distention of the cavities from leakage of the valves or it may be due to defective nutrition or myocarditis, myocardial sclerosis, anemia, chronic or acute intoxications, mechanical overstrain or other causes. If nutrition of the heart is maintained and the work it is to do regulated in time, these myocardial changes will not exert any deleterious action on the cavity, but may be even conservative to the heart as such until the appearance of arterial sclerotic changes to which all parts of the body are ultimately liable. The hypertrophied heart is more liable to arterial sclerosis of the coronaries and chronic myocarditis, yet with proper care for good nutrition and the work of the heart the disease may be controlled for a long time. The most important causes of lack of compensation are here reviewed in detail. The first of these is anemia, the most potent and common, together with infections; then disturbances of local nutrition, of which coronary arterial sclerosis is the most important and serious; and again, increased work of the heart due to overstrain, parturition, alcoholic excesses, tobacco excesses, etc. Purely functional cardiac disturbances as causes of decomposition are rare; marked mental excitement may produce rises in the arterial pressure acting in this way. Death from broken hearts may be accepted as an actuality. Finally, he maintains as a separate group those unfortunate cases where the improper administration of cardiac drugs, for example the use of digitalis, and at present the abuse of the Nauheim method and exercise, causes failure in compensation. He has seen such cases.

30.—See abstract in THE JOURNAL, XXXV, p. 1172.

31. **Spinal Curvature.**—Freiberg emphasizes the importance of spinal curvature, its effect on nutrition, general health, displacement of viscera, and impairment of the muscular system, and the fact that it shortens the expectation of life. He then passes on to its treatment, pointing out that it is rotary lateral in its character, and that forcible correction alone is not the proper method for its treatment. Mobilization of the spine is the one thing to be striven for, and it implies the attainment of an over-correction if possible. The methods and apparatus are described. The development of the chest is the next indication which is suggestive of gymnastic work with or without apparatus. If it is to be accomplished by these measures, the development of all the muscles is important. The author recommends the Swedish system of gymnastics, but suggests avoiding all complicated movements, especially the lateral flexions. In some severe and resistant cases we are not successful in getting satisfactory results by these methods; of others, he has had experience thus far only with the Bradford and Brackett method for the forcible correction in such cases, and the results seem to have been encouraging.

Resinol.—In the notice in THE JOURNAL, of February 9, 1901, p. 403, of Dr. Reynold's paper, resinol was credited with the effects which the author stated were due to subiodid or oxyiodid of bismuth, which he considered almost a specific in diseases of the gastro-intestinal tract. Of course, the use of resinol internally under such conditions could not be indicated.

34. **Influenza.**—From his own experience, personal and professional, Shields believes influenza to be transmitted directly from person to person, and that the first symptoms in the epidemic exhibit themselves either as bronchitis or coryza or an attack of rheumatism, the respiratory symptoms appearing later. He has never seen gastro-intestinal symptoms occur as the primary phenomenon. Of the nasal sinuses, the frontal is the most frequently affected, causing violent headaches. He insists on the importance of the recognition of the transmissibility of the disease. The drugs which he relies upon are: 1. Quinin, which kills the bacillus. 2. Calomel: a few large doses given in the beginning of the disease seems to ameliorate the symptoms markedly in many cases. 3. Iodin, especially in the form of hydriodic acid. For the nervous depression he has found phosphorus more valueble than strychnin. He thinks that benzoate of soda may be of some advantage, though he does not speak of it from personal knowledge. Muriate of ammonia has been his standby for the bronchial symptoms, exerting also its good effects upon the liver. The coal-tar preparations, he thinks, may have unfortunate effects, and he has placed more reliance upon opium or codein as an analgesic.

35. **Congenital Pyloric Stenosis.**—The case reported by Nicoll is that of a child 5 weeks old, which had been born healthy and remained so for about a week, excepting that in about fifteen to twenty minutes after each meal he vomited the entire contents of his stomach. No symptoms of dyspepsia, but gradual emaciation from lack of nourishment, appeared and the dilated stomach stood out on the attenuated abdominal wall, showing marked peristaltic waves. After some hesitation an exploratory operation was made and the pylorus found represented by a bulky ring of muscular or fibroid tissue. A pylorectomy appeared useless in the child's feeble condition, and, therefore, an incision was made above the ring in the stomach wall, and he performed a Loreta operation; a divulsion, from within, of the constricted pylorus was performed. The infant made a perfect recovery and has had complete relief from the previous trouble; excepting a slight rickety tendency, he is now, twelve months later, in perfect health. The author discusses the symptoms of the condition, the apparent cause of the vomiting, progressive emaciation, physical signs of the stomach with emaciation of the abdominal walls, the prognosis of the condition, its treatment and the theories of its causation. As regards treatment, only surgery gives a hopeful prognosis. As regards causation, the theories of congenital developmental aberration, of hypertrophy of the muscular walls of the pylorus, spasmodic contraction from gastric irritation, and chronic inflammatory processes are noted, but no positive opinion expressed. The important element in the cases is that of diagnosis; the trouble may be taken for infantile marasmus.

38.—See abstract in THE JOURNAL, XXXV, p. 1361.

50. **Diphtheria.**—This disorder was one of the most fatal diseases in Boston, the mortality being from 30 to 50 per cent. until the introduction of antitoxin, when it became a comparatively insignificant factor in the death-rate. Burrows' article gives a tabulated statement of about 2,000 cases of diphtheria, in regard to their mortality, ages, etc. The death-rate decreases from infancy to adult life. In the great majority the diphtheritic membrane was observed in both tonsils, and often elsewhere. There were 71 cases of nasal diphtheria. He insists on the importance of taking early cultures, but not waiting for their development before administering antitoxin. In 65 per cent. of the cases there was some form of cardiac dis-

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turbance. The total number of cases of cardiac murmur was about 50 per cent. of the whole. The pulse is almost always feeble; acceleration and rapid pulse after the initial period means a guarded prognosis, and demands continued rest in bed. The use of antitoxin has made albuminuria rare; in 1757 cases, in none was there more than 1/4 of 1 per cent. found. There were 337 cases of laryngeal stenosis, 213 of which were intubated and 124 recovered with antitoxin alone. Of the 213 intubated, 96 died, 37 within 24 hours after admission into the City Hospital, and 40 during the acute stage, from toxemia. In 3 cases subsequent tracheotomy was performed, but all 3 died. He believes that the experience here obtained leads to the conviction that primary tracheotomy no longer has any place in the treatment of simple diphtheritic laryngeal stenosis. Complications, such as enlargement of the glands, ear disease, paralysis, etc., are noted. A large proportion of the fatal cases were moribund when received. There was a total of 240 deaths, 172 or 71.6 per cent. during the acute stage of the disease; in 131 cases there was a mixed infection. As regards treatment, antitoxin was the standby, but the author emphasizes the value of alcoholic stimulants, hot packs, and rectal feeding in cases where vomiting occurs. The experience teaches that the treatment can be best done by giving antitoxin early in large doses and at frequent intervals, especially in severe cases.

51. **Acute Interstitial Nephritis.**—From a study of three cases, the second occurring after an abortion, the first with general streptococcic infection, and in the third case, otitis media with bronchial pneumonia of streptococcic origin, Howard has been able to confirm Councilman's observation of the occurrence: 1. of plasma cells, lymphocytes, polymorphonuclear leucocytes in acute interstitial nephritis. 2. The presence of lymphocytes and plasma cells in the dilated vessels. 3. Mitosis and evident ameboid activity of plasma cells in both blood-vessels and tissues. In addition to the cells described by previous authors, he found large numbers of typical eosinophilic leucocytes in the interstitia, exudation and in the blood-vessels in acute interstitial nephritis. In some places, in one case, these were the most numerous cells in the exudation. The eosinophilic leucocytes in the lesions of acute interstitial nephritis are for the most part brought to the part by the blood-vessels, and reach the interstitial tissue by emigration, but there is evidence—in one case—that they may be formed locally from plasma cells. The large phagocytic cells were not found.

52. **Cardiac Anomalies.**—Hektoen describes two cases of cardiac anomalies, one of defect of the septum between the pulmonary arteries and the aorta, and reviews similar reported cases, and one a peculiar small passage under the base of the anterior aortic valve, with regurgitation, hypertrophy and dilated arterial duct.

55. **Physiologic Cardiac Dilatation.**—Prince points out that the mitral valve is surrounded by circular muscular fibers, which he calls the mitral sphincter, though they are really a portion of the great cone of circular fibers that squeezes the blood out of the ventricle. The main point of his paper is its clinical significance shown under certain conditions, such as direct nervous excitement, etc. The mitral sphincter is forced to either dilate or prevented from sufficiently contracting, so as to produce the condition of mitral insufficiency and regurgitation. This may happen even when the dilatation is not sufficient to be detected by the usual methods. He points out the pathologic conditions in which this may occur, such as fatty degeneration and degenerative diseases generally, aortic stenosis, etc. He insists on the importance of recognition of this physiologic dilatation and physiologic valvular incompetency apart from pathologic varieties, and says we should question whether murmurs, dilatation, and irregularities thus occurring are in part or wholly physiologic, and, therefore, in part temporary or permanent, curable or incurable.

59. **Suprarenal Capsular Hemorrhage.**—Some degree of congestion of the suprarenal gland is held, by Mattei and Spencer, to be always present in the new-born. Hamill reports a case of a child who died shortly after birth, with pyresis in which there was found extensive hemorrhage into the right suprarenal gland and perirenal tissues, compressing the kidney. The only normal tissue found was within the infiltrated cortex. Two other cases are also reported, which are somewhat similar. In one there was a hemorrhage into the cortex and in the other the central sac containing a small amount of brownish, grumous material having the appearance of altered blood. In all three cases there was a papular eruption on the arms, shoulders and chest. The cases are discussed at length and the author seems to think that the causes of these occurrences in still-born children are probably prolonged and difficult labors, especially those requiring manipulation and delivery by the breech. In some infants dying within a few days after birth this factor may still be important in the etiology, but in the great majority some form of infection is responsible. This is the case in practically all instances where death occurs after the tenth day. The hemorrhage may be either unilateral or bilateral. In most of the cases which form the basis of his study it is bilateral. There are no symptoms which seem to be directly related to the lesion. When the hemorrhage is small, limited to one capsule, the symptoms would probably be slight. The immediate effect is now thought to be dependent on the degree of hemorrhage. In mild, non-infectious forms it is probably *nil*. He says, since these organs play an important part in the chemistry of the body, later consequences are likely to be serious, especially if the hemorrhage is at all extensive.

60. **Mitral Lesions in Children.**—Swift discusses the cases of anemic children with diseased mitral valves, as received in the hospitals, many of them coming as cases of chorea. Cases in private practice differ in no particular way. While ordinarily there is no evidence of dilatation or muscular degeneration, such an outcome is to be feared, and he asks whether the outlook for these cases is serious. The answer depends on the environment; the conditions being favorable, the outlook is good. We are not to expect the ordinary course of the inflammation on the endocardium in the adult, if the child is growing, as it must keep up a compensating hypertrophy. If general nutrition fails, the outlook is grave. The etiology of these cases is almost always, if not always, rheumatic. In the treatment we must overcome the cause, rheumatic poisoning, and improve the nutrition. If the heart is not doing its work well and the infection is active or the nervous system irritable, the best plan is to put the child to bed and keep it there. Prolonged quiet enables the heart muscles to regain their tone and reduces the nervous symptom. It may be wise also to administer some one of the salicylates, and he has found strontium salicylate the least irritating. This is important since the remedy must be kept up for a period of weeks or months. The formula is:

R.	Sod. salicyl.	℥ss	16
	Tr. ferri chlor.	℥ss	16
	Ac. citric	gr. x	65
	Glycerin	℥iss	48
	Ol. gaulth.	gtt. viii	52
	Liq. ammon. citrat.	ad ℥iv	128

This is given after each meal, each dram containing 7½ gr. of sodium salicylate and 7½ m. of tincture of chlorid of iron. In some cases the original poisoning may have occurred through decayed teeth or inflamed tonsils, and these should be looked after. The great indication of care and treatment is to improve the nutrition. A few weeks of rest in bed and generous feeding will make the heart stronger, and decrease nervous irritability. Massage may be used if it is feasible. As the child recovers it should be gradually exercised. It is not wise, however, to push it. Two cases are reported.

70.—See abstract in THE JOURNAL, XXXVI, p. 527.

71.—See abstract in THE JOURNAL, XXXV, p. 1424.

73. **Blood-Vessels of the Kidney.**—Brödel describes the anatomy of the kidney, with special relations to the distribution of the blood-vessels, and elaborate illustrations. The principle landmarks are given for incision into the kidney,

avoiding the leading vessels. The description is only clearly intelligible by reference to the illustrations, for which the reader is referred to the paper itself. He suggests that the short incision be made into the lowermost posterior calyx, by means of a blunt dissection and through this incision the pelvis be explored. In the collapsed state this may be difficult, and a moderate distention of the pelvis with sterilized water or borax solution will facilitate the procedure. If this short incision does not prove satisfactory, the three middle calices should be carefully opened by means of an incision from within to the surface with a curved knife. The arrangement of the vessels in the kidney suggests the mattress suture as best adapted for approximating the two cut surfaces. Simple or interrupted sutures almost always tear the tissue and are unsatisfactory. The mattress suture should be placed at right angles, or nearly so, to the large vessels, and thus prevent any tearing of the kidney substance. If the bight of the suture be 1.5 to 2 cm., no strangulation will result. The pelvis is approximated with fine catgut sutures placed between the calices, and which involve only the fat, outer fibroid coat and the muscular layers. The second system of sutures should also be catgut, and should unite the region of the papillæ. They should be mattress sutures. The third system of catgut sutures should also be mattress sutures, and be placed parallel to the second, through the cortex near the bases of the pyramids. Occasionally this third system is superfluous. The capsule is then closed in the usual manner.

77.—See abstract in THE JOURNAL of January 26, p. 273.

78.—Ibid.

79.—Ibid., p. 274.

80.—Ibid.

81.—Ibid.

82.—Ibid., p. 275.

83.—Ibid.

84.—Ibid.

85.—Ibid.

86.—Ibid.

90. **Gunshot Wounds.**—Experience with gunshot wounds in the Philippines is given in detail by Robinson, who found that the Krag and Mauser bullets were alike in their effects, and the wounds they make generally aseptic. The Remington and revolver bullets, on the other hand, were generally infected. He gives a curious fact that the insurgents in the Philippines used the heads of matches for smokeless powder, producing still more decidedly infected wounds. The conclusions which he deduces are given as follows: 1. The modern gunshot wound is generally aseptic, and should be treated on this supposition. 2. Asepsis is due chiefly to the character of the bullet, and early application of first-aid dressing, and in minor degree to the velocity of the projectile. 3. Primary hemorrhage from modern gunshot wounds is exceedingly rare, the blood-vessels being displaced rather than cut by the rapidly moving projectile. 4. The "explosive effect" of the modern bullet is much less common than recent military literature would indicate. This peculiar destructive effect is produced by the character of the tissue struck, as well as by the great velocity of the bullet. 5. Gunshot wounds of the chest are rarely infected. Simple antiseptic treatment, with aspiration of the pleura in cases with severe hemorrhage is all that is necessary. 6. Gunshot wounds of the knee-joint are usually aseptic, but, if infected, demand immediate amputation to save life. 7. Excision of the elbow is always a justifiable operation in severe shattering or infection of that joint. Resection of bones of other joints is rarely necessary, erasion or amputation being preferable. 8. Injuries of nerves from gunshot wounds can often be benefited by operative interference or resection. 9. In modern military surgery, abdominal section for gunshot wound is not justifiable; the patient's best chance of recovery lies in conservative treatment without operation.

91. **Sarcoma of Uterus.**—From a study of 118 cases of sarcoma of the uterus, collected from the literature, Knott notices the importance of the early employment of the microscope. He concludes that the only treatment that accomplishes anything is the early and complete removal of the uterus and its appendages. The prognosis of sarcoma is not as favorable as in carcinoma of the uterus. In 20 of the 118 cases the result of the operation was not stated; in 12 of the remainder no rational operation was performed, leaving 86 cases of hysterectomy. Of this number 31 were said to have recovered, but in many of them the results were not followed for a sufficiently long time. The real mortality would probably be still higher.

92. **Multilocular Renal Cyst.**—After remarks on the rapidity of the disease, its occasional lack of symptoms and the diagnosis, Beck reports a case of which he gives an illustration. Operation was performed and the kidney removed, the patient succumbing to intestinal nephritis eleven days later. He states that it has become doubtful to him whether it will ever be justifiable to remove a cystic kidney, even when the other appears to be normal. The case described by him very strongly suggests that puncture followed by an injection of a drop of saturated solution of iodoform and ether should be tried on the small cysts, while, in the large ones, the peripheral walls should be excised. Very large cysts might even be totally exsected, the wound of the kidney being united by suture of formalin catgut. This can be done by the lumbar route, while the transperitoneal may be resorted to only in obscure cases or where the tumor is of very large size.

94.—See abstract in THE JOURNAL, XXXV, p. 1499.

96.—Ibid., XXXV, p. 323.

104. **Ear Disease in its Relationship to the Cranial Cavity.**—Stein insists on the importance of middle ear disease in its relation to the brain, and points out the methods of entrance of infection into the interior of the cranium, and the possibility of phlebitis, sinus thrombosis, abscesses, etc., the symptoms attending them, their diagnosis and prognosis.

106. **Nasal Depressions.**—Goodale reports a case of depression from septal abscess, corrected by elevating a portion of the triangular cartilage and one of correction of deformity from an old depressed fracture in the nasal bone, by subcutaneous implantation by a septal spur.

111.—See abstract in THE JOURNAL, XXXV, p. 1172.

115.—Ibid., p. 448.

116.—Ibid.

118. **The Bones in Leprosy and Syphilis.**—Ashmead argues that leprosy is not an American disease, but was introduced from Asia, and that in the early or middle ages leprosy and syphilis were largely confused. Leprosy attacks the bones of the digits, while syphilis may affect almost any bony region. Syphilis undoubtedly pre-existed in both continents.

119.—See abstract in THE JOURNAL of January 19, p. 205.

122. **Enuresis.**—Four cases of enuresis are reported in children from 7 to 12 years of age, in whom the usual remedies failed. Examination showed more or less ocular defect, producing eye-strain. Glasses were prescribed and the correction made with the result of relieving the symptom. Frame has not found much literature on this cause of enuresis, though Gould reported several cases cured by correcting the refractive errors. During his twenty years' practice, he has seen a number of resistant cases which he is now inclined to think may have been similar to those reported. He believes a certain number depend entirely on ocular strain, and, whenever medication fails, we should refer the case to an oculist for examination.

133. **Rectal Obstipation.**—Cooke reviews the causes of rectal obstruction, describing the Houston valves especially, and noticing their pathologic condition in which they may be the cause of inconvenience and serious symptoms. Other conditions that may produce rectal obstipation are spasm of the sphincter, hyperplasia and contraction of the levator ani, but the rectal valves particularly form the subject of his article. He says that the operation to relieve this condition, though slight, requiring neither local nor general anesthesia, nor long

confinement to bed, is nevertheless one of the most delicate in surgery. The operation in these cases is almost imperative, since the trouble is seldom recognized in its early stages. It consists simply in incising the valves' free margin down to their muscular coat, but for its proper and safe performance a very thorough knowledge of the anatomy of the parts is required.

134. **Antitoxin.**—Happel details four cases of diphtheria treated with antitoxin, with the intention of impressing on the profession the importance of using this remedy. He agrees with those who hold that there is no maximum dose of antitoxin. Generally speaking, it should never be less than 1000 or 1500 units in any case, and not less than 3000 units in any case of laryngeal diphtheria of malignant type, or in those of a longer standing than twenty-four hours.

135. **Rectal Disorders.**—The first of the rectal troubles noticed by Cox is constipation. He has not found divulsion of the external sphincter of benefit, but he has had one case cured by valvotomy, which he notices in detail because such operations are not usually performed by the general practitioner. The other rectal disorders mentioned are rectal ulcer, which he treats with dilatation of the rectum and tamponing, cleansing and scarifying the ulcer and using a 5 to 10 per cent. solution of nitrate of silver. Hemorrhoids are also mentioned; he treats them by ligation and incision of the tumor above the ligature.

146. **Rhatany.**—Howard calls attention to the use of rhatany as an astringent in cases of bladder trouble, giving his own case as an instance of its value. He got the idea of using it from reading Watson's Practice, but he has found that it is hardly at all in use by the profession at the present day. The paper is written for the purpose of calling the attention of the profession to its value.

FOREIGN.

British Medical Journal, February 9.

Ringworm Infection in Man and Animals. J. L. BUNCH. Ringworm is generally considered to be due to two classes of fungus, microsporon and trichophyton, which can be distinguished to a certain extent clinically and microscopically, but still better in cultures. There is a less common form due to a fungus, which cultures give a faviform growth, but the lesions of this are either circinate or well-marked kerion. The trichophyton class includes two forms, the ectothrix, both large and small spored, and the endothrix, while an intermediate variety may be distinguished microscopically, in which the fungus lies both within and without the hairs. The etiology of these different forms is always obscure and Bunch relates the cases he has investigated of the disease contracted from the lower animals. Inasmuch as ringworm cultures can be inoculated into animals and vice versa, the possibility of the animals having received the infection from the human species in his case is excluded by the dates of the first symptoms. The first two cases were those in which the ectothrix eruptions were found and traced back to a horse. The third case was that of a boy with kerion of the scalp, the infection of which was traced to a terrier. The fourth case occurred in a child only four weeks old and a cat in the house was troubled with a bare patch, cultures from which gave a more luxuriant growth than cultures from the child, but their identity is not doubted. Still other cases are reported from cats, one of these being endothrix. Other animals from which the condition seemed to be derived were pet canaries and calves. These cases are the results of a very considerable study lasting over a period of three years. The number of such cases having such an origin must always be a very small percentage of the whole, as the infection has a much better chance to spread in the same species.

Finsen's Light Treatment of Lupus and Rodent Ulcer. MALCOLM MORRIS AND S. ERNEST DORE.—The authors report their experience with the light treatment of lupus and rodent ulcer, giving first some details of the technique. A current of about 75 amperes and 60 volts is usually sufficient. The lenses must be in good order, clean and bright, and the water free from floating particles. The area treated is kept well within the focus of the light, but a smaller focus, if it can be borne, gives better results. The rays should fall perpendicularly on the compressing glass, and the compressors are kept in place by elastics. Resulting reaction varies somewhat with the idiosyncrasy of the patient. The time of its appearance varies from five to six to twenty-four hours. It is usually slight at first, becoming more marked later, and the duration of the sore, from primary hyperemia to complete healing, is from ten days to a fortnight. When situated over loose tissue, for example the eye, there is often great swelling of the neighboring parts, so that the eye may be nearly closed. Lupus vulgaris is the disease most amenable; sometimes one application is sufficient to cause the disappearance of a small isolated superficial nodule. Generally in extensive cases a single spot is treated daily, and the parts first treated are sufficiently healed in a few days to allow of their being treated again. If it is only a small area the application may be continued as long as possible, until soreness of the part necessitates cessation for a few days, when it is again continued. In extensive cases the treatment may have to be continued over a year and pyrogallic acid ointment, where there is great thickness of the skin, quickens the action. In rodent ulcer the healing often follows quickly after the application. In lupus erythematosus the effects have been marked, though not so certain as in lupus vulgaris. Constitutional effects are practically nil. The effects on the eye have been harmless, though the lids themselves have been involved. In one case, where the skin of the nose was treated, improvement took place in the mucous membrane and sense of smell. In preparing the patient, the crusts are removed with forceps, the area is then bathed with boric lotion, and, if there is any grease on the spot, with ether. The skin is then marked with a blue pencil to localize the application. After treatment the compressors are cleaned with spirit and carbolic acid. The disease surface treated is dressed if necessary, with a simple zinc lanolin ointment, or a paste with zinc, vaselin and starch, and a little boric acid. The unfavorable conditions are those which hinder the penetration of light, such as scarring, pigmentation, great vascularity, great depth below the surface of the disease, and the situation of the disease in a position to embarrass the application or make it inaccessible. In very extensive disease the condition is unfavorable, both on account of the long duration of treatment and the possibility of its spreading in one direction while another is being treated. Cases are favorable when the disease is limited, not spreading, and has undergone no previous treatment. The advantages of the method are reliability, painlessness, excellent cosmetic results, less liability to relapse, and avoidance of surgery. The disadvantages are the small area treated at a time, long time required and the expense. The rest of the paper is taken up with a report of cases.

Surgical Treatment of Migraine. WALTER WHITEHEAD.—The author recommends the use of the seton for the treatment of migraine, a method which he has employed for the last twenty-five years with the greatest success. The seton is introduced through the skin at the back of the neck, and instructions are given to move the tape from side to side each day. This should be worn interruptedly for three months at least, in the first instance, and if the symptoms recur, a second seton ought to be introduced.

The Lancet, February 9.

Gastric Hemorrhage and its Surgical Treatment. A. W. MAYO ROBSON.—The conclusions reached by Robson, concerning the treatment of gastric ulcer, are: 1. All cases of acute uncomplicated gastric ulcer should be submitted to thorough medical treatment in the shape of long-continued rest and attention to the diet, the patients not being allowed to get up or resume solid food until at least a fortnight after all disappearance of the pain. 2. Where the ulceration persists and proves intractable to medical treatment, or where relapses occur, gastro-enterostomy should be performed so as to secure physiologic rest and relieve the hyperacidity of the gastric juice nearly always found in such cases. 3. Perforation de-

mands immediate surgical treatment. 4. The complications of disabling adhesions around the stomach and pylorus, pyloric contraction, and hour-glass contraction due to chronic ulcers leading to pain, dilatation, loss of flesh, and general impairment of health, now often treated as chronic indigestion, should be treated surgically. 5. In recurring or so-called chronic hematemesis from gastric ulcer surgical treatment is decidedly called for. In acute hematemesis, further accuracy in diagnosis as to the size of the bleeding vessels is urgently needed; and the co-operation of the physician and surgeon is advisable in all cases of hematemesis, so that if relief be not obtained by medical treatment, surgical means may be adopted if the bleeding is believed to occur from a large vessel; but seeing that capillary hemorrhage is capable of relief by medical means alone, medical should always precede surgical treatment.

A Plea for More Careful Study of the Symptoms of Perforation in Typhoid Fever with a View to Early Operation. WILLIAM OSLER.—The author pleads for an early diagnosis of symptoms in perforation in typhoid, points out the diminishing mortality of late years and the possibility of saving many patients if the condition is recognized before peritonitis has fully set in. He lays down a schedule of symptoms to be observed; the character of the pain, locality, the distention or otherwise of the abdomen, limitations of respiratory movement, percussion and auscultation signs, the rectal and genito-urinary symptoms, facies of the patient, changes in the pulse, temperature, hiccough, vomiting and leukopenia and condition of red blood-corpuscles and the hemoglobin. These are all indicated, with many other more detailed symptoms. The most constant symptom is sudden pain, increasing in intensity and recurring in paroxysms, and this with increase of pulse rate, distention of abdomen with great tenderness on pressure and rising leucocytosis make the diagnosis probable. A surgical colleague should be called early to share the responsibility, and in doubtful cases the patients should be given the benefit of the doubt and operation be urged.

Observations Based on the Probable Mode of Formation of Urinary Stone, Relative to its Recurrence and Prevention. REGINALD HARRISON.—The great frequency of recurrence of vesical calculus with the modern operation of litholapaxy has led Harrison to call attention to the treatment of the bladder following the operation and the preventative treatment based upon the mode that it is held urinary calculi are formed. He has for some time regarded all cases operated on for stone as suspicious until a sufficient interval has elapsed to free these from this imputation. The patient should be watched, and, if the condition of the urine becomes abnormal in any way, the bladder should be carefully attended to and washed out as for exploration, so as to remove any small forming concretions before they get large. In some cases where the bladder is sacculated, and to make doubly sure, it is well to wash out with the evacuation catheter and aspirator, as after litholapaxy. The causation of stone is connected with some as yet imperfectly understood chemical process, and Rainey's experiments as to artificial production of these formations are noticed. We have probably paid too much attention to the possible causes arising out of cases of special characteristic ingredients in the urine, instead of considering other conditions capable of bringing this about by consolidation of what is natural in the urine. He thinks that an increase in the quantity of urinary mucus may provide a basis for stone formation and an uncleanly condition of the urine may be a favoring condition. Some years ago he called attention to a soluble and digestible salt of boric acid, borocitrate of magnesia, which has a valuable action in sterilizing the urine. Drugs such as the benzoates of sodium and ammonia, hyposulphite of sodium, etc., are also exceedingly useful. After noticing several cases he calls attention to the general principles, which should not be forgotten, of noticing abnormalities, such as excess of urates, uric acid, and oxalates, but for the most part his contentions are based on proportions which may be normal. In the operation for removing stone from the bladder, two things should be looked after: 1. After every crushing operation it should be insured that every particle of debris is removed. A bladder obstructed by enlarged prostate is apt to resemble the section of a coarse bath sponge rather than the outside of a teacup, and the chances for enlargement of particles are greatly increased. 2. Care should be exercised in any kind of operations to avoid introducing rough scar tissue into the bladder. Phosphatic concretions on rough uneven surfaces are likely to be formed.

Archives Generales de Medecine (Paris), January.

Mercurial Injections in Hemorrhagic Diseases. A. LUSIGNOLI.—This communication asserts that hemorrhagic affections, such as scorbutus, purpura and Werlhoff's disease, are produced by a special micro-organism whose products pass into the blood. These various diseases are all of the same nature and differ merely in intensity. The writer announces that they can be cured by intravenous injections of 1 to 4 mg. a day of mercuric chlorid, according to Baccelli's method. He describes five cases cured in a week by this treatment.

Circling for Fractures of the Patella. P. A. CASSEDEBAT.—Extremely favorable results were obtained in a severe case of fracture of the patella, which would inevitably have left a deformity if treated by any other method than circling. Berger was the first to call attention to the advantages of passing a silver wire around the fractured patella, thus holding the fragments together in a loop, instead of suturing them together. Cassedebat is so impressed with the value of the method that he advocates it as a routine measure, instead of reserving it for the gravest cases.

Progres Med. (Paris), January 26 and February 2.

Mountain and Balloon Sickness. E. GUGLIELMINETTI.—The project to build a railroad to the summit of the Jungfrau has given a new impetus to the study of the effects of rarefied air on the system. The writer of this profusely illustrated article spent two weeks on the summit of Mont Blanc, with a number of workmen, and experienced an acute attack of mountain sickness. His companion, Dr. Jacottet, of Neuchatel, died after five days of suffering, and several of the workmen were affected. None was relieved at any time by inhalations of oxygen. He is convinced that mountain sickness is essentially the result of mechanical disturbances in the circulation; the diminished atmospheric pressure leads to the accumulation of blood in the peripheral vessels which are gorged, while the arteries are depleted, with consequent anemia in the brain. The pulmonary vessels swell, the blood stagnates in them and the cavities of the right heart become dilated. Chemical disturbances—the anoxyhemia—have a subordinate rôle. Treatment should be addressed to the circulation, with remedies that act on the vessels and on the heart, such as caffein, strychnin and subcutaneous injections of salt solution. [Aron has recently published an experimental study of the effects of rarefied air. He found the inhalation of oxygen effective in banishing the cyanosis and disturbances experienced in the pneumatic chamber, but he noted that the oxygen, while materially relieving, did not restore the respiration to normal, confirming the assumption that beside the chemical, important physical factors are also at work in mountain sickness.—Zeitschr. f. Klin. Med., xii. ED.]

Revue de Medecine (Paris), January.

Nephritis of Pregnancy. E. GAUCHER.—The nephritis of pregnancy is of an autotoxic nature and, consequently, epithelial at first. If the cause persists—either prolonged intoxication or repeated invasion from successive pregnancies—the lesion becomes interstitial and assumes the anatomico-clinical characteristics of chronic, mixed nephritis, predominantly interstitial. Whatever the nature of the poison, whether mineral, vegetable or animal, all varieties of toxic nephritis have the same evolution.

Re-education of the Movements of the Heart. F. LAGRANGE.—A series of pulse-tracings are given to demonstrate the efficacy of systematically applied exercises in regulating anomalies in form, amplitude, frequency or rhythm of the arterial pulse. Thoracic aspiration is an important indirect aid in drawing the blood in the direction in which it is impelled by the systole. The lung can be made to co-operate in forcing the blood along. Massage is another means of pro-

moting the circulation in case of asystolia. Deep massage of the abdomen empties the veins, especially the portal vessels, and the amount of blood in the arteries is proportionately increased, augmenting their resistance and thus regulating the action of the heart in turn. The wild pulse observed while the heart is comparatively empty approximates to normal as the flow through the heart is increased. On the other hand, in arteriosclerosis, the indications are the reverse, the arterial tension requires to be reduced instead of increased. Massage is also the remedy in this case, but not deep, mechanical, as before, but superficial. The aim is to induce vaso-dilating reflexes by lively, superficial physiologic friction, slapping and pinching. When this is applied lightly to the four members, avoiding the trunk, the arterial tension is reduced, the blood drawn to the periphery and the functioning of the heart favorably modified.

Tendon Reflexes in Typhoid Fever. P. REMLINGER.—The tendon reflexes were exaggerated in 32 per cent. of the cases of typhoid fever examined by Remlinger, diminished in 17, abolished in 29, and unmodified in 22 per cent. His impression is that the exaggeration occurs in the grave, ataxic and ataxo-adynamic cases.

Traumatic Diabetes with Throat Symptoms. P. VERGELY.—Almost every one of the complications and nervous symptoms of ordinary diabetes are seen in the traumatic variety. The glycosuria may not appear for a long interval after the trauma, which probably merely rouses some latent predisposition in the organism. Any unusual, strange, nervous phenomenon that can not be traced to a neurosis or organic lesion, should suggest the possibility of a disturbance in nutrition, and examination of the urine will reveal its significance. In the case described, dyspnea, simulating angina pectoris, was the first and, for months, the only symptom of the traumatic diabetes.

Allg. Med. Cent. Ztg. (Vienna), January 23.

Colloid Silver a Specific Against Sepsis. P. VIETT.—Credé's colloid silver is not toxic, and Viett uses it in larger quantities than is generally recommended. He considers it a specific against sepsis. It is especially valuable in country practice and completely fulfils Credé's claims for it in this respect. In puerperal sepsis, appendicitis, etc., Viett rubs the silver salve—unguentum Credé—on regions remote from the morbid process, in some cases using as much as 12 gm. in nine hours for an adult, 8 gm. in eight hours for a child of 7, and 2 gm. a day for an infant of 3 months.

Beitraege z. Geb. u. Gyn. (Leipsic), III, 1 to 3.

Experimental Tests of Various Methods of Resuscitating the Newly Born. B. S. SCHULTZE.—Spirometer tracings are given showing the superior efficacy of Schultze's swinging method over all others for inducing artificial respiration in new-born infants. Tests on 29 cadavers of still-born infants showed that swinging freed the lungs from mucus and rendered energetic inspirations possible. Sylvester's method was the only one to be compared with it.

Etiology of Malignant Tumors. A. HEGAR.—The cell of a malignant tumor is an injured tissue cell, whose differentiation has been impaired. The injury may have occurred in embryonal or extrauterine life or possibly in the germ-plasma. Injurious factors are numerous, among them the products of bacterial metabolism have an important place. The tissue cell possesses the inherent faculty of growth, which is necessary to form a malignant tumor. A stimulus to proliferation is, however, required to set this faculty in action. The injurious factor and the stimulus to proliferate, in all probability, frequently originate from the same source, the toxins evolved by micro-organisms. In the prophylaxis of malignant tumors everything tending to the normal regeneration of the cells should be favored, especially by diet suitable to the individual, the occupation and the age. Infections of all kinds should be scrupulously avoided, gonorrhea and syphilis in particular. Local irritation of the tissues and stagnation of excreta should also be prevented. Local venous hyperemia should be relieved and abolished, and all defects in the epithelium prevented by a mild astringent or zinc or boricized salve.

Remote Results of Prolapsus Operations. O. V. HERFF.—Surgical methods of treating prolapsus uteri are all unsatisfactory, as they can not restore the missing tonicity to the tissues. This can be accomplished only by therapeutic gymnastics and the avoidance of violent efforts on the part of the abdominal muscles. Herff reviews the remote results of 283 operations for prolapse. Complete working capacity was restored in 37.2 per cent. after simple colporrhaphy or perineorrhaphy; after complicated intervention in 50 per cent.; after vaginal or vesical fixation in 41.8 per cent.; after ventral fixation in 53.8 per cent., and after hysterectomy in 55.1 per cent. Freund's operation was performed seven times and the threads cut through in every case with only partial restoration of the working capacity; Mueller's operation was done in two cases, with complete restoration in one.

New Method of Shortening the Cervix. H. FUCHS.—The advantage of the operation described is that the vaginal portion is retained intact, with no cicatricial ring. The cervix is resected above, the lips of the os uteri detached and mobilized, but the connection with the vagina left undisturbed. Nine patients have been thus operated on at Kiel with eminently satisfactory results, and with no interference with pregnancy.

Beitraege z. Klin. Chirurgie (Tuebingen), December.

Experiences with Beck's Operation for Hypospadias. G. MARWEDEL.—Beck's method of forward dislocation of the urethra in the treatment of hypospadias was applied by Marwedel in seven cases, the children ranging between 1 and 9 years of age. In 3, the operation was completely successful; in 2, a slight secondary operation was necessary. In one of the others a large hematoma formed, requiring the Thiersch operation. In this and another case erections interfered with the healing. A permanent catheter was found indispensable in nearly every case, contrary to Beck's experience. No necrosis of the urethra was observed, but in two cases a small urinary fistula persisted at the lower angle of the wound, although the urethra had not been injured and the wound had healed by first intention.

Appendicitis in Hernial Sac. F. TACKE.—A small lump was noted for three months in the right inguinal region. It suddenly increased in size and became extremely painful, the swelling involving the entire inguinal region and scrotum, with fever, vomiting, depression and diarrhea. The hernial sac contained a portion of the intact cecum and the suppurating appendix, perforated at the tip. Tacke has collected twenty-eight somewhat similar cases in the literature.

Rectal Exploration and Incision in Appendicitis. A. LANGEMAK.—The advantages and necessity of rectal exploration in all cases of suspected appendicitis are announced by Langemak. He describes a number of cases in which the surgical intervention was by the rectal route, with the most satisfactory results, including a case of hemorrhage from erosion. Not a trace of ascending infection was observed in any case.

Irreducible Luxation of the Shoulder. E. SCHOCH.—One personal case is reported and fifty-four in the literature are reviewed. The results obtained by the various methods of treatment emphasize the fact that arthrotomy is the standard procedure in all recent cases. In older cases arthrotomy should be tried first, but if the head is found much injured, resection should be done. In his personal case, a young farmer, normal function for any kind of work was restored to the joint.

Esophagoscopy for Foreign Bodies. V. V. HACKER.—During the last eight years Hacker has had occasion to remove foreign bodies from the esophagus twenty-seven times. By the aid of esophagoscopy all were located and removed without injury to the patient, only one requiring gastrostomy. He explores with a sound tipped with metal or ivory, which grates when brought in contact with the foreign body. During this same period fourteen esophagotomies were done at Gussenbauer's clinic at Vienna for the same indications.

Operative Treatment of Basedow's Disease. B. WITMER.—The 23 cases of Basedow's disease operated on by Kroenlein are analyzed and followed to date in this communication. In 18 the operation was successful; in 2 it did not affect the course of the disease; 2 died, and the fate of 1 is unknown. The mortality was thus 8.6 per cent. Mikulicz reports 4.8; Czerny, 1 in 4; Kocher, 3 in 34, while all of Kummel's 20 patients were restored to their working capacity. In Rehn's collective statistics the mortality is given at 13.6 per cent.

Weakness of the heart is the complication most to be feared. In the fatal cases the operation is not in itself the cause of death, but it merely gives the slight impetus required. The operation was limited to resection of the struma in 19 cases with 1 death; enucleation, in 3, and ligature of the artery in 2 with one death. Generally speaking, Witmer concludes, the treatment of Basedow's disease is internal. If no improvement is manifest in spite of internal measures, surgical intervention should be resorted to. Symptoms of stenosis indicate operation.

Therapeutische Monatshefte (Berlin), December.

Prevention of Tuberculosis in Children. E. FEER.—Absolute cleanliness, sunshine, fresh air and exercise out of doors are the factors in the prevention of tuberculosis as well for children as for adults. Among the minor points Feer mentions that the bedding in hotels, etc., should be covered with a washable sheet to prevent infection from the blankets, and that a sheet should be spread on the floor for young children to play on, never putting them down on a carpet, especially in a hotel. If possible, the child should be confined to the sheet with a light, folding fence around it. The teeth should be carefully supervised, as tubercular infection may occur through a cavity at any age. Precautions should be multiplied in case of children with a tendency to glandular affections.

Atmocausis and Zestocausis. W. STOECKEL.—Treatment with steam is the only certain means at our command for controlling menstrual and climacteric hemorrhage, according to Stoeckel. It can be depended on in all cases without complications such as myomata, polypi, relics of abortion or much endometritic alterations. It is especially prompt and reliable in violent climacteric hemorrhages, and far superior to the curette for this purpose.

Zeitschrift f. Geb. u. Gyn. (Stuttgart), XLIV, 1 and 2.

Incipient Chancroid of the Portio. O. V. FRANQUE.—The normal anatomic conditions of the uterus completely justify supravaginal amputation in case of commencing chancroid of the portio as a sufficient and satisfactory operation. Franque has not been able to find a single case in which the lymph-glands were involved. Even in the progressive and extreme cases the involvement of the body of the uterus is the rare exception. By the arrangement of the lymph-glands in the region, dissemination in this direction is against the current.

Severe Paralysis of the Stomach and Intestine, Especially After Operations. O. V. HERFF.—Two personal observations are added to the 32 cases on record of acute paresis or paralysis of the stomach, inducing extreme dilatation and mechanical occlusion of the adjoining portion of the duodenum. All but 5 were fatal; 12 occurred consecutive to various operations, with nothing in common but the chloroform narcosis. The primary cause is probably injury of the nervous apparatus of the stomach from trauma of the spinal cord in some cases, in others from pathologic distention of the stomach from abnormal fermentations, and in others from the toxic action of the chloroform or from autointoxication. For a certain number of the cases no plausible explanation can be advanced. A predisposition existed in all of the patients, from preceding emaciation, debility or a chronic gastric affection. Many were convalescing from various diseases. In the majority of cases the paralysis occurred with no appreciable direct cause, the patients being still under surveillance in the hospital. The age in 70 per cent. was between 17 and 30. Persistent vomiting after chloroform should suggest the possibility of acute dilatation of the stomach from paralysis. When suspected, the stomach should be promptly and systematically rinsed and all food per os prohibited. The rapidly-failing strength should be sustained with rectal feeding, wine and faradization of the stomach. Rectal injections of 1 to 1.5 liters of salt solution will counteract the excessive thirst. The knee-elbow position or ventral decubitus may assist the treatment. The vomiting is the chief symptom, accompanied by violent pain and tympanism of the stomach, intense thirst, absence of gastric peristalsis and indications of cardiac insufficiency with normal or subnormal temperature. In 3 of the 5 patients who recovered chronic atony of the stomach persisted for years. Two were unmistakably saved by prompt rinsing of the stomach with chloroform water. Death is usually due to inanition or lack of water.

Zeitschrift f. Hyg. u. Inf. (Leipsic), XXXV, 1.

Survival of Micro-organisms in Spray. F. KIRSTEIN.—Forty-two pages are devoted to the description of the tests at the Giessen Institute of Hygiene, which showed that when bacteria without spores, disseminated in fine spray, are exposed to the action of air and light they survive but a comparatively short time.

Zeitschrift f. Klin. Med. (Berlin), XXI and XXII, 1.

Gelatin Treatment of Aneurysms. J. SORGO.—Six cases are described in which aneurysms were treated by injections of a solution of gelatin. Forty-two aneurysms treated with gelatin are also recorded in literature. Analyzing these 48 cases, Sorgo finds that in 18 the aneurysm was sacculated, and organized coagula formed in 13. In the 16 non-sacculated cases no clot-formation occurred. In one of his personal cases the ascending aorta was the seat of a diffuse aneurysm, and the innominate of a sacculated aneurysm. The latter was filled with clots, while there was no trace of them in the former. Prolonged repose and suitable diet, especially milk, create conditions favorable to the obliteration of a sacculated aneurysm, and consequently he thinks we are not justified in ascribing the obliteration of the sac to the influence of the gelatin. In a number of cases of hemorrhage from various sources hemostasis occurred after local or subcutaneous injections of gelatin. It is impossible to assert, however, that in any case the gelatin was the direct cause of the hemostasis or clot-formation, because the same effect might have followed the restricted diet and repose, and because in many cases there was no hemostatic action; because the result may have been merely a coincidence, and because no experimental proof of the coagulating action of gelatin has been offered to date. The experiences in the 48 cases show that injections of gelatin are harmless even in quite concentrated solutions. The pains sometimes caused by them are favorable on the whole, as they compel repose. Experience has also demonstrated that kidney affections are no contraindication to the administration of gelatin by the mouth. The question is still undecided in respect to subcutaneous injections.

Connection Between Diabetes and Tabes. W. CRONER.—Diabetes may appear on a foundation of arteriosclerosis, and the latter is due to syphilitic infection in many cases. Affections of the pancreas with consecutive diabetes may also be explained by this association. Diabetes can also appear as a complication of tabes if the tabetic process invades the centers that preside over the sugar processes in the body.

Laryngoscopy in Children. A. KIRSTEIN.—The autoscope devised by Kirstein merely depresses the tongue in a deep groove running to the epiglottis, which is automatically raised by the pressure. Gentle pressure on the prominence of the thyroid cartilage forces the anterior glottis well into view, and the entire throat can be inspected with remarkable ease no matter how much the child may resist. The entire larynx can be examined by this means in children of all ages, even from birth, although practice of the technique on the cadaver is an important aid. The autoscope was described in full and illustrated in the *Cbl. f. Kinderheilk*, 1899, 12, and experience is confirming its harmlessness and value.

Ziegler's Beitraege f. A. Path. (Jena), XXVIII, 3.

Transplantation of a Piece of the Colon in the Stomach. H. REERINK.—A piece of the colon, connected with its mesocolon, was transplanted into the anterior stomach wall to close a large defect, in numerous experiments on shepherd dogs. One of the animals, killed four weeks later, showed that the transplanted piece had healed perfectly into place and continued its function. Other experiments with a flap without a pedicle were less successful; the omentum became adherent to the stomach wall and the piece of intestine shrivelled and was absorbed. Experiments on the cadaver demonstrated that a large expanse of the anterior stomach wall can be substituted without technical difficulty. The transverse colon is peculiarly suitable for the purpose on account of its size. Other dogs thus operated on are still under surveillance at Freiburg to determine the remote fate of the transplanted flaps, which will be reported later.

Gazetta Degli Osp. (Milan), January 3.

Differentiating Receptacle for Gonorrheal Urine. I. CASTRACANE.—The patient urinates directly into a flaring tube 2 cm. in diameter, holding about 300 c.c. It is bent into the shape of three Us in a row, thus automatically separating the urine into three portions, each of the same height and volume, easily inspected through the glass, which is graduated. Tests with colored fluids showed that the contents of the first loop are forced into the second and on into the third loop without blending with the following portions of fluid, although it is poured into the receptacle in a continuous stream.

Anales Del Circ. Med. Arg. (Buenos Ayres), December.

Serotherapy for Anthrax in Man. F. DASSO.—The anti-anthrax serum prepared by Mendez is much more powerful than Sclavo's or Sobernheim's. Dasso reports 130 cases treated with it, with the constant result of falling temperature, disappearance of the edema, general improvement and resolution of the ganglionary infarct. Nine of the patients died, all but two from secondary infection. The remainder of the cases all testify to the efficiency and specific character of Mendez's serum. The dose is 10 c.c., injected subcutaneously.

Antitoxin for Mosquito Bites. VOGES.—Naphthalan is the substance which Voges calls an antitoxin for mosquito bites. He states that its action on the poison from the bite is as effective and specific as that of an antitoxin on the bacterial toxin. Voges is at the head of the National Department of Hygiene of the Argentine Republic.

Klinitchesky Journal (Moscow), December.

Experimental Embolism of the Coronary Arteries. A. FOXT.—The functional and anatomic alterations caused by embolism of the coronary arteries have been studied by Foxt on large dogs. He introduced minute seeds into the coronary arteries through the aorta. When the main stem of the anterior branch of the left coronary artery was completely occluded, death ensued in eight minutes from arrest of the heart, but when smaller ramifications were involved, survival for several days was possible. The obstructions in the finer branches disturbed the functioning of the neuromuscular apparatus of the heart and interfered with the establishment of collateral circulation. Marked arrhythmia and diminished systolic elevation were produced in every case and also pronounced mechanical dilatation of the cavities of the heart, especially the left ventricle, but these symptoms passed away as collateral circulation was established. There was always extravasation of blood around the occluded points and patches of anemia in the myocardium. Comparison of the results of this experimental research, and clinical experience of thrombosis and sclerosis of the coronary arteries, demonstrates that the chief cause of the disturbances in each case is the general, persisting anemia in the myocardium. The entire syndrome, subjective and objective, is the consequence of the intense disturbance of the tonicity of the muscle, resulting from this anemia, and the disturbed tonicity entails various degrees of mechanical dilatation of the different cavities of the heart. The collateral circulation that may finally be established is evidently inadequate for the maintenance, although it may sometimes prove sufficient for the regulating function of the heart under ordinary circumstances. Foxt's experiments also demonstrate a certain periodicity in the symptoms observed, which explains the fact that alterations in the coronary arteries are sometimes found at autopsies when no symptoms had been observed during life, owing to the remission of the symptoms at the time of examination.

Change of Address.

N. M. Black, 1801 Grand Ave., to 177 14th St., Milwaukee, Wis.
M. R. Bailey, 4324 Market St., to 331 South 13th St., Philadelphia, Pa.
G. E. Baxter, St. Luke's Hospital, Chicago, Ill., to Griggsville, Ill.
W. Bertrand, Rosa, La., to Cloutierville, La.
W. B. Burns, Deckerville, Ark., to Porter Bldg., Memphis, Tenn.
J. K. Castles, St. Joseph's Hospital, to Poor and Insane Asylum, Memphis, Tenn.
J. T. Caster, 817 South Cherry St., Nashville, Tenn., to California Creek, N. C.
A. Christiansen, Lock Box 602, to 510 Harrison Blvd., Wausau, Wis.
H. R. Coston, Haskell, Tex., to 2012 3rd Ave., Birmingham, Ala.
C. E. Coffin, Asylum, Neb., to Room 10, 1241 O St., Lincoln, Neb.
H. I. Davis, 3120 to 3146 Indiana Ave., Chicago, Ill.
V. W. Dunlap, Newport News, Va., to Rush Run, W. Va.
Ada Epperson, 695 Jackson Blvd., to 662 Monroe St., Chicago, Ill.
J. W. Earel, 666 W. Adams St., Chicago, Ill., to Abingdon, Ill.
E. H. Gabel, Mary Thompson Hospital, to 740 N. Park Ave., Chicago, Ill.
M. R. Gage, Biloxi, Miss., to Sparta, Wis.
Emily J. Heize, 70 State St., to 6118 Monroe Ave., Chicago, Ill.
M. M. Hixon, Continental, Ohio, to Delphos, Ohio.
Chas. Hodgkinson, Roseville, Mich., to Detroit, Mich.
F. H. Hacking, Raymond, Minn., to Wood Lake, Minn.
F. Hinchey, S. E. corner Channing and Olive Sts., to 2330 Washington Ave., St. Louis, Mo.
C. E. Hoitzen, St. Louis, Mo., to Lake Creek, Mo.
J. G. Hughes, Sheboygan, Wis., to 507 Stewart Bldg., Chicago, Ill.
A. P. Harrison, Kansas City, Kan., to Arlington, Mo.
H. Johnston, Clinton, La., to Hope Villa, La.
Emma J. Keen, 1618 Glenarm St., Denver, Colo., to Fort Collins, Colo.
A. E. Klein, Elmhurst, Long Island, N. Y., to Corona, Long Island, N. Y.
C. R. King, 390 N. Clark St., to 987 Jackson Blvd., Chicago, Ill.
T. C. Lyster, asst.-surgeon, U. S. A., Havana, Cuba, to Fort Schuyler, N. Y.
T. A. Lancaster, North Manchester, Ind., to 1236 W. 23rd St., Los Angeles, Cal.
B. J. McConvill, 626 Monroe St., to 243 Ogden Ave., Chicago, Ill.
R. K. Morton, 4421 Samson St., Philadelphia, Pa., to Lead City, S. D.
C. P. Mitchell, 994 Union St., Memphis, Tenn., to Ora, Ala.
W. J. McRoberts, Jefferson City, Mo., to Edgemont, S. D.
R. H. Moore, Trenton, N. J., to 1880 Seneca St., Buffalo, N. Y.
J. W. Mulick, McIntire, Ia., to Elma, Ia.
H. P. Packard, 1638 Pennsylvania Ave., to 1221 California Ave., Denver, Colo.

The Public Service.

Army Changes.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., Feb. 7 to 13, 1901, inclusive.

George W. Adair, major and surgeon, U. S. A., member of a board at Fort Sheridan, Ill., to examine enlisted men for promotion.

Max A. Becher, acting asst.-surgeon, from Los Angeles to San Francisco, Cal., to accompany troops to Manila, P. I., and for subsequent assignment in the Division of the Philippines.

William H. Corbusier, major and surgeon, U. S. A., member of board at Governor's Island, N. Y., to examine enlisted men recommended for commissions.

William D. Crosby, captain and asst.-surgeon, U. S. A., as Corbusier above.

Guy L. Edie, major and surgeon, Vols., relieved from further duty in the Division of the Philipines and assigned to temporary duty in the Department of California.

Louis T. Hess, lieutenant and asst.-surgeon, U. S. A., member of a board at San Francisco, Cal., to examine enlisted men for promotion.

John Van R. Hoff, major and surgeon, U. S. A., member of a retiring board in Washington, D. C.

John S. Marshall, dental surgeon, U. S. A., from Chicago, Ill., to Washington, D. C., to report to the Surgeon-General for instructions.

James C. Merrill, major and surgeon, U. S. A., member of a retiring board in Washington, D. C.

Robert W. Morgan, dental surgeon, U. S. A., from Lynchburg, Va., to report at Washington, D. C., to the Surgeon-General for instructions.

Edward R. Morris, captain and asst.-surgeon, U. S. A., in addition to his present duties, to act as examiner of recruits at the city of Detroit, Mich.

Edward L. Munson, captain and asst.-surgeon, U. S. A., leave of absence granted on account of sickness.

Robert T. Oliver, dental surgeon, U. S. A., from Indianapolis, Ind., to Washington, D. C., to report to the Surgeon-General for instructions.

William E. Purviance, captain and asst.-surgeon, U. S. A., member of a board at San Francisco, Cal., to examine enlisted men for promotion.

Charles Richard, major and surgeon, U. S. A., member of a board at Fort Leavenworth, Kan., to examine enlisted men for promotion.

Samuel S. Turner, acting asst.-surgeon, member of a board at Fort Sheridan, Ill., to examine enlisted men for promotion.

Robert Winn, acting asst.-surgeon, member of board at Fort Leavenworth, Kan., to examine enlisted men for promotion.

In addition to the above the following named medical officers were appointed to membership on boards to be convened March 1, 1901, at the stations designated, for the mental and physical examination of such candidates for the Military Academy as may be authorized to appear before them: Major John M. Banister, surgeon, U. S. A., and Lieut. Franklin M. Kemp, asst.-surgeon, U. S. A., at West Point, N. Y.; Acting Asst.-Surgeon John S. Fogg, at Fort McHenry, Md.; Maj. William O. Owen, surgeon, U. S. A., at Fort Thomas, Ky.; Capt. Harry M. Hallock, asst.-surgeon, U. S. A., at Fort McPherson, Ga.; Maj. Aaron H. Appel, surgeon, U. S. A., at Jackson Barracks, La.; Maj. Charles B. Byrne, surgeon, U. S. A., at Fort Sam Houston, Tex.; Capt. Henry I. Raymond, asst.-surgeon, U. S. A., at Fort Sheridan, Ill.; Maj. Marshall W. Wood, surgeon, U. S. A., at Jefferson Barracks, Mo.; Maj. Charles Richard, surgeon, U. S. A., at Fort Leavenworth, Kan.; Capt. Alfred E. Bradley, asst.-surgeon, U. S. A., at Fort Snelling, Minn.; Lieut.-Col. Henry Lippincott, deputy surgeon-general, U. S. A., at Fort Logan, Colo.; Acting Asst.-Surgeon Carle E. Bentley, at Fort Logan H. Roots, Ark.; Maj. John D. Hall, surgeon, U. S. A., at the Presidio of San Francisco, Cal., and Maj. Louis S. Tesson, surgeon, U. S. A., at Vancouver Barracks, Wash.

Special Order, No. 218, Headquarters Division of the Philippines, Manila, P. I., Dec. 21, 1900, reads as follows: Upon recommendation of the chief surgeon of the Division, the following named

acting asst.-surgeons, U. S. A., are authorized to proceed to Manila and report to the president of the army medical board constituted by paragraph 12, Special Order, No. 15, current series, headquarters of the army, for examination for appointment as asst.-surgeons, U. S. A., and upon completion thereof will return to their proper stations, the travel expenses involved to be defrayed by applicants under paragraph 1395 of the Regulations: Department of Northern Luzon, George M. Ekwurzel, Isador M. Unger, Ernest F. Slater, Lorin B. Oblinger, James F. Edwards and U. S. Grant Deaton; Department of Southern Luzon, Frank T. Woodbury and Wilmont E. Brown; Department of the Visayas, Paul R. Fletcher. Applicants, before leaving their stations, will file with the chief surgeon of their respective departments, by telegraph if practicable, a certificate that they intend to appear before the board on arrival at Manila.

Navy Changes.

Changes in the Medical Corps of the Navy for the week ending Feb. 16, 1901:

P. A. Surgeon C. P. Bagg, detached from the Cavite Naval Station and ordered to the *Culgoa*.

P. A. Surgeon A. R. Alfred, detached from the *Culgoa* and ordered to the Naval Station, Cavite, February 7.

Surgeon C. Biddle, detached from the Naval Hospital, Norfolk, Va., and ordered home to wait orders.

Surgeon D. O. Lewis, detached from the *Iowa* and ordered to the *Philadelphia*, February 13.

Surgeon W. F. Arnold, detached from duty at the Naval Recruiting Rendezvous, Chicago, Ill., March 1, and ordered to the *New Orleans*, sailing for Manila, March 15.

Surgeon S. H. Griffith, detached from the *Prairie*, when put out of commission, and ordered to duty under the Bureau of Medicine and Surgery.

Surgeon F. J. B. Cordeiro, detached from the *New Orleans* and ordered home and to wait orders.

Surgeon A. M. Moore, retired, ordered to duty at Naval Recruiting Rendezvous, Chicago, Ill., March 1.

Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the U. S. Marine-Hospital Service for the seven days ended Feb. 14, 1901:

Surgeon H. W. Sawtelle, granted leave of absence for thirty days from February 20.

Surgeon P. C. Kalloch, granted leave of absence for three days from February 17.

P. A. Surgeon H. D. Geddings, granted leave of absence on account of sickness for eight days from January 26; granted leave of absence for thirty days from February 3.

P. A. Surgeon C. H. Gardner, granted leave of absence for seven days.

Asst.-Surgeon H. B. Parker, to proceed to Gulf Quarantine and assume temporary command of the service during the absence on leave of the medical officer.

Asst.-Surgeon Dunlop Moore, to proceed to Port Townsend, Wash., and assume temporary command of the service during the absence on leave of the medical officer in command.

Asst.-Surgeon G. W. McCoy, granted leave of absence for fourteen days from March 18.

Health Reports.

SMALLPOX—UNITED STATES.

California: Oakland, Jan. 12-26, 4 cases.
Florida: Jacksonville, Feb. 2-9, 2 cases.
Georgia: Jeffersonville, Feb. 7, 2 cases.
Illinois: Cairo: Jan. 26-Feb. 9, 8 cases; Chicago, Feb. 2-9, 2 cases; Pulaski County, Feb. 2-9, 5 cases.
Iowa: Ottumwa, Jan. 5-26, 2 cases.
Kansas: Lawrence, Feb. 2-9, 3 cases; Wichita, Feb. 2-9, 9 cases.
Kentucky: Lexington, Feb. 2-9, 1 case.
Louisiana: New Orleans, Jan. 2-9, 14 cases, 4 deaths.
Minnesota: Minneapolis, Jan. 26-Feb. 9, 9 cases.
Mississippi: Vicksburg, Feb. 2-9, 4 cases, 2 deaths.
Nebraska: Omaha, Feb. 2-9, 8 cases.
New Hampshire: Manchester, Feb. 2-9, 26 cases.
New York: New York, Feb. 2-9, 17 cases, 6 deaths.
Ohio: Ashtabula, Feb. 2-9, 2 cases; Cleveland, Feb. 2-9, 18 cases, 1 death; Toledo, Feb. 2-9, 1 case.
Pennsylvania: Pittsburg, Feb. 2-9, 5 cases.
Tennessee: Memphis, Feb. 2-9, 16 cases; Nashville, Feb. 2-9, 9 cases.
Utah: Salt Lake City, Feb. 2-9, 32 cases.

SMALLPOX—FOREIGN AND INSULAR.

Austria: Prague, Jan. 12-26, 27 cases.
China: Hongkong, Jan. 5-12, 1 case.
Ecuador: Guayaquil, Nov. 24-Jan. 5, 25 deaths.
Egypt: Cairo, Jan. 1-7, 1 death.
England: London, Jan. 19-26, 3 cases; Newcastle on Tyne, Jan. 19-26, 5 cases.
France: Paris, Jan. 12-19, 6 deaths.
India: Bombay, Jan. 1-15, 6 deaths; Calcutta, Dec. 29-Jan. 5, 96 deaths; Karachi, Dec. 23-Jan. 6, 7 cases, 3 deaths; Madras, Dec. 15-Jan. 4, 3 deaths.
Mexico: Merida, Dec. 20, 1900, epidemic; Tuxpan, Jan. 28-Feb. 4, 2 deaths.
Porto Rico: Ponce, Feb. 8, 22 cases.
Russia: Moscow, Jan. 12-19, 4 cases; Odessa, Jan. 12-19, 31 cases, 5 deaths; St. Petersburg, Jan. 5-19, 6 cases, 2 deaths.
Scotland: Glasgow, Jan. 25-Feb. 1, 180 cases.

CHOLERA.

India: Bombay, Jan. 1-15, 9 deaths; Calcutta, Dec. 29-Jan. 5, 31 deaths; Madras, Dec. 15-Jan. 4, 19 deaths.

PLAGUE.

China: Hongkong, Dec. 29-Jan. 5, 2 cases, 2 deaths.
England: Hull, Jan 30, 2 deaths, crew of steamship *Friary*.
Wales: Cardiff, Feb. 8, 1 death.
India: Bombay, Jan. 1-15, 550 deaths; Calcutta, Dec. 29-Jan. 5, 28 deaths.

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